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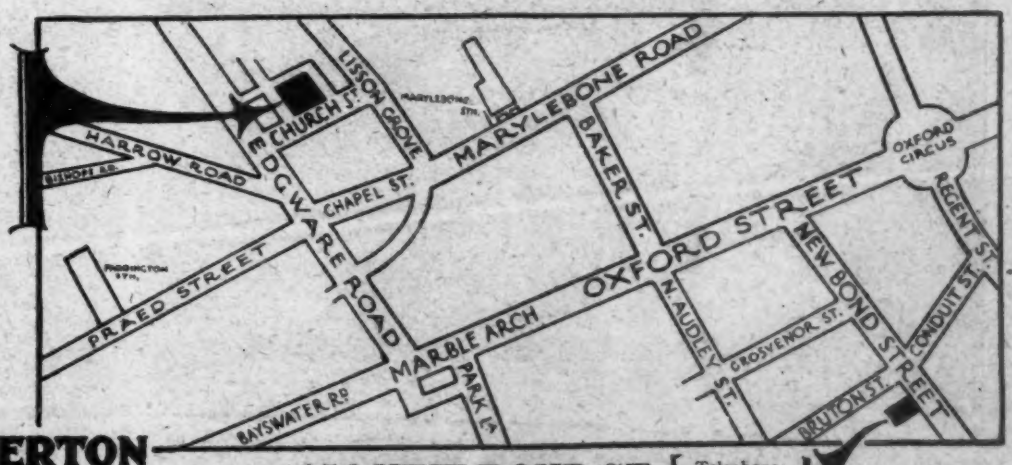

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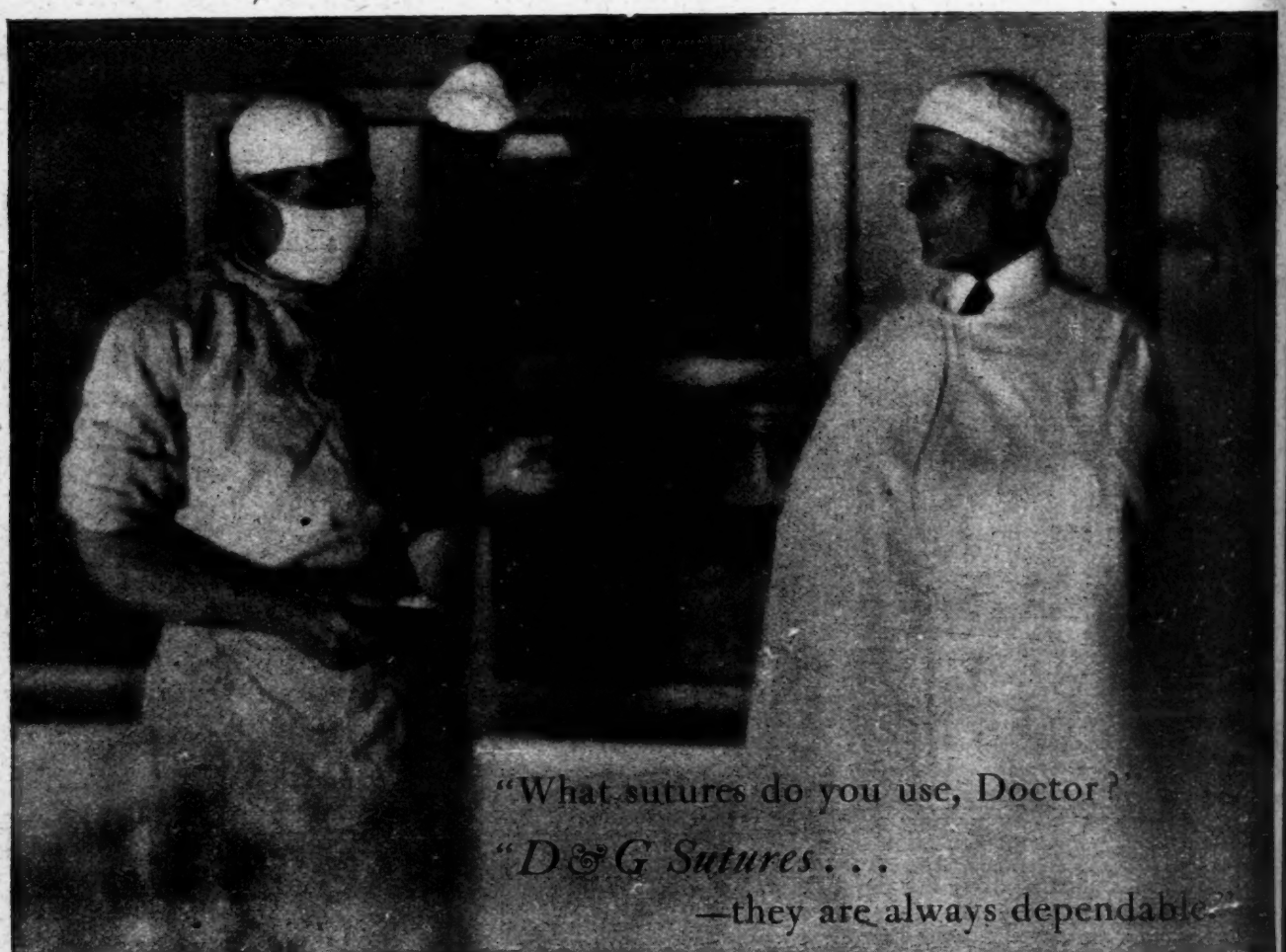


C. F. THACKRAY ▾ PARK STREET, LEEDS ▾ 119 HIGH HOLBORN, LONDON, W.C.1

An Address
ON
THE IMPORTANT EARLY SYMPTOMS IN DISEASES OF THE BREAST.*

BY
SIR G. LENTHAL CHEATLE, K.C.B. F.R.C.S.,
SURGEON TO KING'S COLLEGE HOSPITAL.

BEFORE considering the clinical side of diseases of the breast it is necessary to recognize certain elementary anatomical arrangements. Each gland possesses from fifteen to twenty ducts, which have innumerable branches ending in acini. The ducts and acini are lined from within outwards by (1) epithelium, (2) a single layer of unstriated muscle fibres, (3) a delicate fibrillous tissue containing scattered cells of myxomatous appearance, (4) the elastica which surrounds the ducts and not as a rule the acini, (5) the pericanalicular and periacinous connective tissue. These tissues compose the breast structure, and are embedded in supporting connective tissue. Any of these five tissues may, either singly or in combination, undergo diffuse or local hyperplasia quite apart from any similar change that may occur in the supporting connective tissue.

If the breast be thin and the affected ducts and acini superficial any hyperplasia in these structures would give rise to true nodularity of the breast. If this nodularity be true (a false nodularity I will explain later) we are dealing with a problem of "hyperplasia," and must not use the meaningless misleading term (for only a term it is) "chronic mastitis." This term conveys no meaning, because true nodularity of the breast is caused by many diverse forms of hyperplasia. Nodularity may be due to an epithelial hyperplasia in its earliest stage of carcinoma, and all chance of saving life may be lost by simply regarding it as a "chronic mastitis." All forms of true nodularity of the breast must be looked on from the point of view of hyperplasia. From this point of view there are three thoughts in my mind. The first is that the tissues concerned in hyperplasia cannot all be in the same biological state throughout the whole breast during the whole of a patient's life, and even when normal they cannot all be able to respond equally and at the same time to a stimulus of hyperplasia. For hyperplasia to occur in a tissue it must be in a biological state that renders it capable of responding by growth to a hyperplastic stimulus. The second thought is this: the stimulus that is capable of inducing hyperplasia may not always be the same stimulus, nor applied in the same degree. Even when the stimulus is acting on tissues in different biological states, hyperplasia may result in some of the tissues and not in others. Again, it is conceivable that two or more kinds of hyperplastic stimuli may be applied at the same time, and may induce hyperplasia in two or more different kinds of responsive tissues.

The third thought is that none of the forms of hyperplasia are induced by a stimulus, and that hyperplasia may be caused by the inhibition of some controlling factor of growth. The inhibition may be systemic or localized in action for all that is known. All that can be said is that there are indications which may be regarded as pointing to the presence of an inhibiting factor. We know that there are different kinds of irritants which are followed by hyperplasia. For instance, the mechanical irritation of the spawn of a frog by means of a very delicate stilette will induce the development of a fatherless frog capable of reproducing its species. Bacteria can induce hyperplasia. The products of staphylococci induce hyperplasia in the bone marrow, causing leucocytosis, and where they are applied locally they begin even within a few hours to induce hyperplasia of the connective tissues in the vicinity of the main lesion. Tubercle bacilli induce hyperplasia of the endothelium. Gonococci can induce epithelial growth —warts for instance. There can be no doubt that the products of staphylococci come in contact with endothelial cells as well as with those of connective tissue, but they do not cause the enormous hyperplasia of endothelial cells that is so typical of the effects of the local action of tubercle bacilli. The contrary may be said of tubercle bacilli. Their products must come in contact with fibrous connective tissue cells, but they induce a much more hyperplastic effect upon the endothelial cells. The same differentiation exists between gonococci and the relation of their products to epithelium. These are examples of different kinds of irritation either selecting tissues or being selected by the biological states of tissues which undergo hyperplasia. To sum up all these different forms of hyperplasia under the term of "chronic inflammation" or "chronic mastitis" completely hides the enormous problems that are involved in hyperplasia. Therefore, in attempting to make a diagnosis of a nodularity or a tumour in the breast the prevailing notion should be an attempt to discover which is the particular tissue undergoing hyperplasia.

For a moment I will digress in order to explain what I mean by "false nodularity of the breast." The fat covering the breast of a young girl is perfectly smooth. As age increases the size and weight of the breasts increase and the breasts become more pendulous. These states are accentuated by lactation. The ligamenta suspensoria of Sir Astley Cooper intersect the fat between the breast and the true skin. As age advances, and especially after lactation, these ligaments become more dense, and their terminal branches as they reach the skin enclose lobules of fat which are separated from each other. When the surface of such a breast is palpated it gives rise to a sensation of diffuse nodularity of the underlying gland, which in these circumstances cannot be felt at all. A description of nodularity of the breast cannot be taken as a trustworthy observation of fact if there be fat in this state between the gland and the skin. A vast number of breasts are in this state. (See Fig. 1.) When any kind of pain (referred or otherwise) is experienced in them "chronic mastitis" is at once diagnosed. Nodularity of an underlying breast can only be observed on palpation of a thin breast. Sometimes the breast of a thin person may be covered by a thick layer of fat. Hence the state of adiposity of an individual is not so important as the relation of fat to the breast under observation.

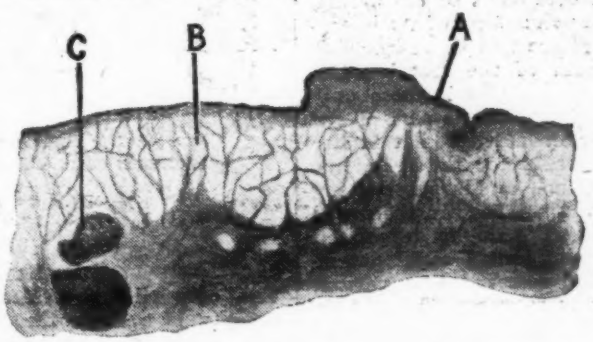


FIG. 1.—A tracing made from the microscopical sections of a whole breast that was removed from a woman who had borne and suckled children. A is the nipple; B subcutaneous fat intersected by branching thickened ligamenta suspensoria of Sir Astley Cooper; C is a fibro-adenoma which could not be felt through the dense layer of fat, and appeared to be the periphery of the breast. The gland was removed for carcinoma elsewhere in this breast.

I pass on to describe symptoms that render it essential for a correct diagnosis to be made at once. I shall not describe a tumour which is adherent to the skin, and associated with enlarged lymphatic glands in the axilla. The clinical diagnosis of carcinoma can be made almost with certainty upon these signs, and the state indicates that the carcinoma has extended a great deal too far to be safe. So the symptoms to which I will allude do not include these. The signs and symptoms of early disease of the breast are limited to a few important ones, and when it is considered that early carcinoma or papillomata can be present in a breast without causing any clinical sign whatever, then the consideration makes the presence of even one definite clinical sign of fateful importance. The signs to which I would particularly draw attention are:

1. (*a*) Nodularity localized to one part of a breast, or one part of a breast where nodularity is more marked than at any other part; (*b*) a lump in the breast, and when

*Delivered at the opening of the post-graduate course at the Prince of Wales Hospital, 1926.

neither (*a*) nor (*b*) exhibits adherence to skin nor enlarged lymphatic glands in the axilla.

2. It is difficult for women, who are so accustomed to pain, to associate it with pathological lesions in their breasts. They do not regard pain in their breasts as being so important as when it occurs elsewhere. At puberty they experience mammary pain, which is repeated throughout the term of their menstrual periods. Any irregularity of the pelvic visceral organs induces pain in the breast. Various emotions may give rise to it. Thus throughout life a certain amount of pain in the breasts is so common that many women regard it as a normal experience. The fact makes difficult an attempt to elicit pain as part of the history of a pathological lesion. In the report issued by the Ministry of Health, Dr. Lane-Claypon and Professor Major Greenwood, after studying many histories of carcinoma of the breast, made a special point of stating that pain was a late symptom. If ordinary histories of patients can be trusted, the conclusion of this report is true. It is rare for a patient to state spontaneously that she had noticed any particular pain before she felt the lump in the breast. On the other hand, if a history be carefully taken and a special point be made of asking the patient to try and remember when she noticed a pain in the breast to which she was not accustomed, she will often say, "Oh, well, I did notice a little stabbing pain, but I did not take any notice of it." That is a common experience of mine, and I believe pain of this lancinating, stabbing character is often the earliest symptom of carcinoma of the breast, and the want of knowledge and appreciation of its importance on the part of the patient allows this important sign to be lost. The earliest carcinoma of the breast which I have excised was removed from a patient whose only complaint was a stabbing pain situated in one part of the breast. I could feel no lump or nodularity. I told her frankly that I could not find a cause for the pain, but that as there was about half an inch of fat between my fingers and the site of pain I could not be sure there was no cause. I said to her that her life might depend on whether a cause existed or not, and that I could not be sure about the matter until I had removed that portion of the breast and had examined it microscopically. This was done, and on microscopical examination we discovered a small focus of carcinoma which was already beginning to spread into the fat surrounding the periphery of the gland. Since that case I have always regarded the presence of a lancinating pain situated in one part of a breast as a very important symptom, whether there is or is not a lump or nodularity to be felt.

3. A spontaneous intermittent discharge of blood from a nipple. By a spontaneous discharge of blood I mean a discharge not caused by trauma. A spontaneous discharge of blood from a nipple may be due to duct carcinoma, to carcinoma arising deep in the breasts in terminal ducts and acini, but also to papillomata, and very frequently the discharge occurs (from these causes) when neither lump nor nodularity can be felt. Occasionally a papilloma in one ampulla may be the only tumour in the breast. On the other hand, a duct may contain hundreds of them situated throughout the whole of its course. Again, two or more papillomata may exist not in an ampulla at all, but in deeper parts of the breast. There is no clinical information to guide us as to whether there is only one papilloma in an ampulla, or whether there are multiple papillomata in the breast. Papillomata in a duct are as dangerous as in the large intestine; they are often associated with carcinoma.

4. Spontaneous discharge of serum from the nipple may be caused by the same diseases that induce haemorrhage from the nipple, and should be regarded with the same degree of seriousness.

5. A gradually retracting nipple.

When any one of these signs exists it should be taken as a signal of danger. A lump or nodularity should be widely excised and microscopically examined. The same treatment should be applied to a part in which there is a local focus of pain. The whole breast should be excised as for carcinoma when there is spontaneous discharge of blood or serum from the nipple. Lives are being lost by disregarding the importance of these early signs.

All those surgeons who think they are giving important educational information to the public have made a great point of advising women to consult their doctors directly they notice a lump in their breast. Let us consider what are the implications of that advice so sincerely given. It implies that the patient is securing treatment early in the disease, whereas really when a lump appears in carcinoma the disease is well advanced, and is already threatening the patient's life, possibly beyond all hope of a cure. A woman with that advice in her mind may feel a pain, see a discharge of blood or serum from her nipple, think that these are unimportant because she can feel no lump, and that therefore it is unnecessary to consult a doctor. The attempt to educate the public to become acute clinical observers is very praiseworthy, and if I were deeply impressed with its advisability I would make a great point of telling women that it is more essential that we should see their breasts before any lump has appeared. We want to see their breasts if they have either local nodularity or lancinating pain in one spot, or a discharge of blood, or a discharge of serum from the nipples. In any event we have no chance of obtaining better results after the operation for carcinoma of the breast unless we are able to attack the disease in an earlier state than we do at present.

An Address
ON
ACROMEGALY FROM A SURGICAL STANDPOINT.

BY
HARVEY CUSHING,
PROFESSOR OF SURGERY, THE HARVARD MEDICAL SCHOOL.

(With Special Plate.)

PART II.

D. HYPERPITUITARISM.

THE only clinical evidence we have of pituitary overactivity is overgrowth. That this overgrowth is due to excess, rather than to perversion of glandular function as was long thought possible, has now been conclusively shown, not only by Evans's experiments, but by Smith's demonstration that homoplastic transplants will restore the normal curve of growth to rats which have been dwarfed by hypophysectomy.

As with clinical hypopituitarism, so with clinical hyperpituitarism, it is convenient to divide the cases into two main categories—those in which the disorder has set in during pre-adolescence, and those in which it has begun to manifest itself in adult life. The former results in gigantism, the latter in acromegaly. So far as is known, both of these states are invariably associated with a hyperplasia or, more commonly, with an actual adenoma of the chromophilic elements.

1. *The Chromophile Adenomas Originating in Pre-adolescence (Gigantism).*

It has come to be generally assumed that the difference between gigantism and acromegaly is merely one of difference in the age of onset. Accordingly, though giants and acromegalics differ to an extraordinary degree outwardly, this is held to be largely a matter of the skeletal response to the growth hormone; inwardly the consequences of the hyperpituitarism are much the same in the two maladies. Both are accompanied by visceral splanchnomegaly and by a hyperplasia, often with adenomatosis of the thyroid and parathyroid glands and adrenal cortex.

To be sure, these are clinico-pathological assumptions for which as yet there is no experimental proof. So far gigantism has only been reproduced in the rat, and since the interruption of oestrus serves as an indicator of the activity of the prepared extract, the female rat has commonly been used. Moreover, the rat is an animal whose epiphyses never close, so that its capacity for growth in length is unaltered throughout life. One would assume, therefore, that parenteral injections of anterior lobe extract would accelerate a rat's growth at any time of life, and

FIG. 16.—(No. 19837.) The distended pituitary fossa (natural size) in the case of gigantism.

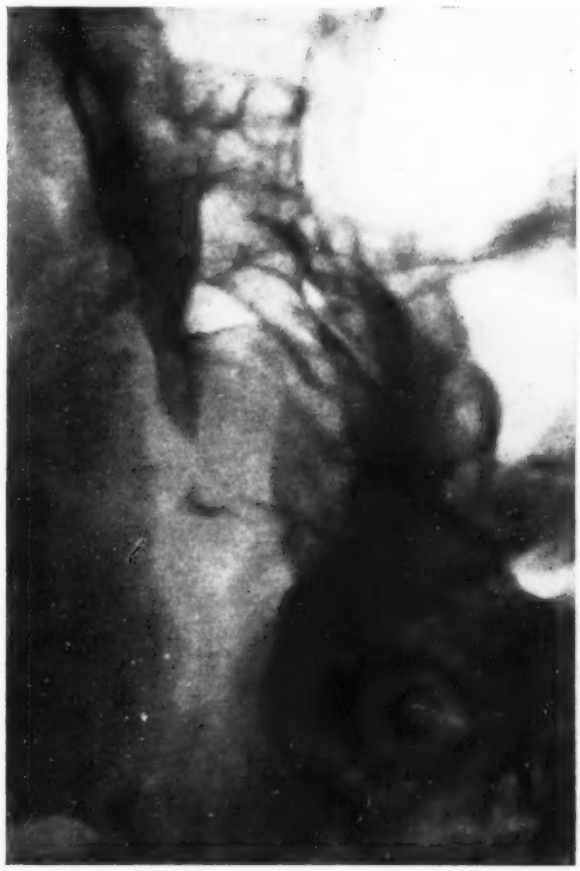


FIG. 29.—(No. 3657.) The sellar outlines indicating a large adenoma associated with early acromegaly.

FIG. 11.—(No. 25031.) Slightly widened sella with patches of calcification showing above the posterior clinoid processes and within the fossa itself.

FIG. 19.—(No. 29304.) To show the moderately enlarged acromegalic sella of the case reported.

FIG. 29.—(No. 25204.) To show the acromegalic patient's comparatively small sella.

FIG. 33.—(No. 25410.) To show the but slightly enlarged sella in the case reported.

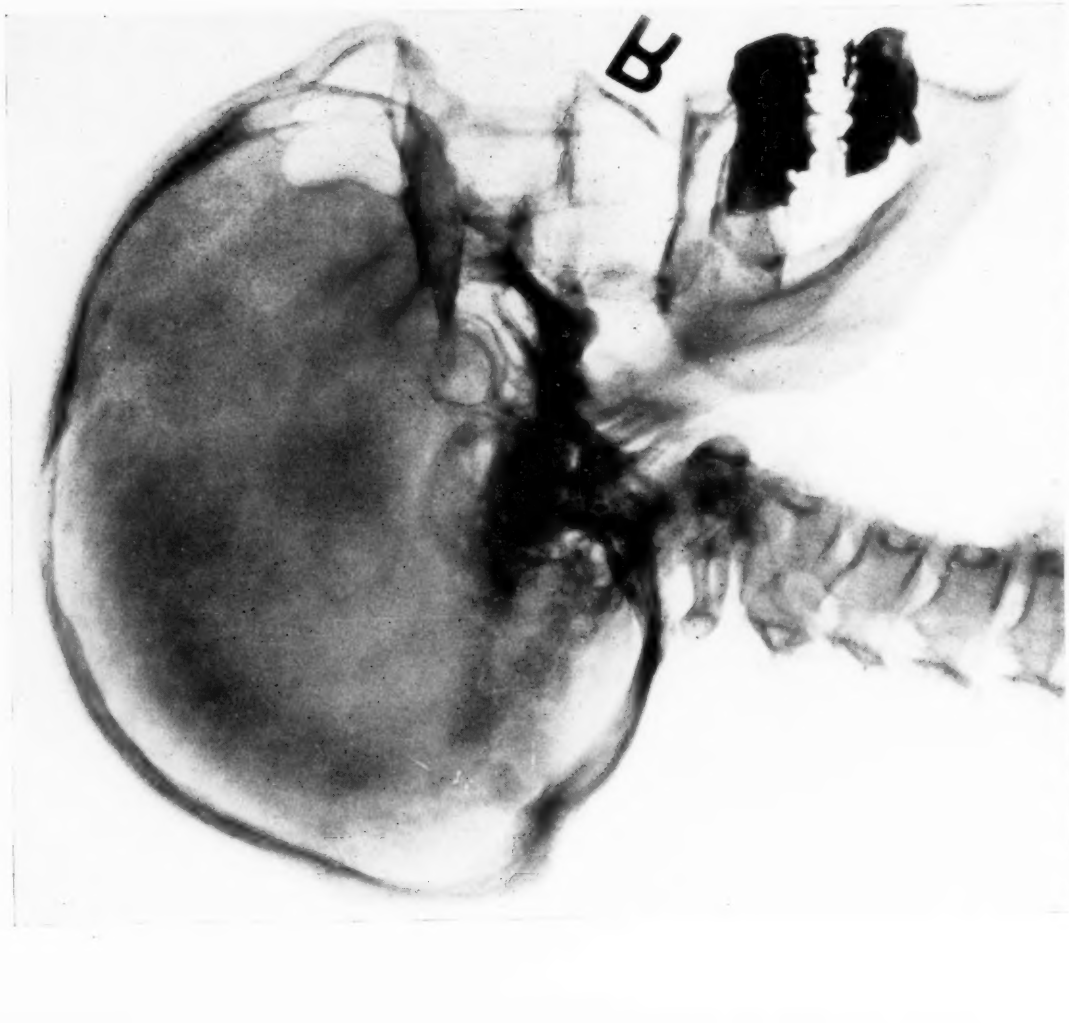


FIG. 32.—(No. 27770.) To show characteristic acromegalic changes with only moderately enlarged sella turcica.

that something comparable to acromegaly could only be produced in animals whose epiphyses normally become closed.

Since both acromegaly and gigantism are inevitably associated with a chromophile adenoma[8] (our present series of 65 verified cases all having shown an excess of this type of cell), and since a tendency to adenoma formation, whether chromophobe or chromophile, characterizes adult life, giants or acromegalic giants are much more rare than are cases of acromegaly. In other words, a pre-adolescent chromophile adenoma resulting in hyperpituitarism is about as rare as a pre-adolescent chromophobe adenoma resulting in hypopituitarism. Pituitary nanism, though a common malady, is usually due to lesions of other sorts.

In Davidoff's analysis of a consecutive series of 100 cases there were no examples of true gigantism; and though in a few of the patients the disease had started early enough to lead to an increase in stature, possibly only one of them might be considered to be an actual giant who possessed no acromegalic features.*

(Surg. No. 19847.) A young man (Fig. 15), a normally proportioned individual, had begun to grow rapidly at the age of 13; and at the time of his admission to hospital, when 21 years of age, he had attained a height of 6 ft. 8 in.

For a year he had had headaches, and the radiograph showed a widely distended sella (Fig. 16). In view of the fact that there was no evidence of pressure involvement against the chiasm, deep radiotherapy was advised and for a time he experienced subjective relief. However, after his fourth radiation he had a severe generalized headache and soon noticed that his sight was failing. He experienced, too, an extraordinary sense of muscular weakness, became seriously ill, and was readmitted to the hospital because of these symptoms. He was kept under observation for a time, but as his vision became reduced to blindness in one eye and a temporal hemianopsia in the other, surgical intervention seemed imperative.

In the course of the usual transphenoidal operation, on incising the dura over his huge tumour, soft, semi-liquefied tissue began to extrude, and what appeared to be a largely necrotic adenoma was scooped away.

After operation there was prompt relief from headaches, and within seven days his visual fields had been restored almost to their normal peripheries; but it was long before he regained his general vigour. Convalescence was signalized by an extraordinary period of polyphagia, during which he was hardly satisfied with five large meals a day. He has since regained apparently normal health and has been leading an active life on a ranch.

Sections of the tissue showed a typical chromophile adenoma.

FIG. 15.—Clinical gigantism associated with a chromophile adenoma.

FIG. 33.—(No. 25410.) To show the but slightly enlarged sella in the case reported.

This case, then, has clinical resemblances to experimental gigantism, and it is hoped, in view of the radical removal of an adenoma seriously damaged by deep radiation, that a therapeutic cure of the process has been brought about. But he will always, of course, remain a giant, just as the giant rats of the experimental laboratory remain gigantic, even though further injections of anterior lobe extract are withdrawn.

2. *The Chromophilic Adenomas of Adult Life (Acromegaly).*

Acromegalic growth in the long run is so obvious that the clinical diagnosis is made at a glance. Nature in her ugliest mood conceived such a malady. To heap insult on injury, its victims often suffer from intolerable headaches, due presumably to the participation of the sella in the general osseous overgrowth, so that its walls give way less easily than do those which enclose the ordinary chromophobe adenomas. Otherwise, the cephalalgia of hypopituitary cases would be equally severe, which it is not; for when the more easily distensible pituitary fossa in these states has expanded, the headaches usually cease.

But even in acromegaly the fossa gives way in time, and the adenoma may eventually rupture the enveloping capsule and fill the sphenoidal cells, or, what is worse, push its way into the cranial chamber. In proportion to the number of cases, more extreme instances of this latter eventuality have been met with in acromegalics than in patients with the more common chromophobe tumours. I may be permitted to borrow a telling example from a recent monograph in which the nature of these pituitary tumours was discussed.[9]

The illustrations (Figs. 17 and 18) serve to show how in this particular case the unmistakably adenomatous lesion, having passed laterally through the capsule, has developed unrestricted in the cranial chamber, leaving the remainder of the fairly intact gland in a relatively small sella. The patient, who had long suffered from acromegalic diabetes, ultimately died from acute cardiac failure associated with a *cor bovinum*—a not uncommon ending for severe cases of acromegaly. During his life not the slightest suspicion of this huge intracranial extension of the growth had been aroused. Could it have been recognized, it might well enough have been attacked even in its advanced state. But the only possible way to have checked the patient's malady, as something apart from the tumour problem, would have been by an early extirpation of the lesion before the disastrous secondary effects of his long-standing hyperpituitarism, of which the cardiac hypertrophy was part and parcel, had occurred.

A chromophile adenoma, however, has usually announced itself by Marie's unmistakable syndrome long before the gland shows any noticeable enlargement, and consequently before the sella has become distended. This was one of the reasons for the doubts formerly expressed as to whether the pituitary tumour was a causal or coincidental lesion in acromegaly. We know better than that to-day; but the point I would emphasize is that a small hypophysis may accompany unmistakable acromegaly, whereas in the hypopituitary states produced by chromophobe adenomas, the secondary constitutional disturbances are so relatively inconspicuous that the disorder is not likely to be recognized until the tumour has reached a size sufficient to provoke the characteristic neighbourhood symptoms. In other words, the tumour is what calls attention to adult hypopituitarism; whereas acromegaly calls attention to itself before the adenoma has reached the tumefaction stage.

These things being so, are we entitled to attack a chromophile adenoma while small in the hope of forestalling its future devastating effects on the body? This is the rub, and though another generation will have to answer the question practically, we are at least entitled to consider it theoretically.

Heretofore, in the long run of cases, the surgical problem in acromegaly has been no different from that in pituitary insufficiency due to chromophobe adenomas. When a pituitary tumour, regardless of its cytological composition, becomes large enough to distort the chiasm and to impair vision, the problem clearly is one to be met by mechanical (surgical) measures. The surgeon's objective accordingly is to remove, by whatever method he particularly favours, a sufficient amount of the growth to relieve the chiasm from pressure; and the results, so far as restoration of vision is concerned, have been equally good whatever the composition of the adenoma—purely chromophile, transitional, or purely chromophobe.

It may be well at this point to give an illustration of what we would heretofore have looked upon as a sufficiently creditable outcome of one of these operations. For the purposes of my theme I shall select a fifteen-year-old example.

(Surg. No. 23304.) A Russian, aged 23 years, was admitted to the Johns Hopkins Hospital on February 19th, 1912. His complaints, as recorded, consisted of severe headaches with photophobia, enlargement of the extremities, and impotence—all of about four years' duration. In the preceding three years his weight had increased from 160 to 191 lb. His acromegaly was fairly pronounced (Figs. 20, 21), and in spite of his comparative

* The case was included in the report by Dott and Bailey, loc. cit.

youth was unassociated with traces of gigantism, his height (5 ft. 9½ in.) having remained stationary. The sella was moderately enlarged (Fig. 19), but as there were no signs of serious involvement of the chiasm intervention was postponed.

He re-entered the hospital a month later, owing to a great accentuation of his headaches, which had become incapacitating. A bitemporal constriction of the visual fields, with beginning pallor of the optic nerves, had by this time become sufficiently evident to justify intervention on this score alone. Accordingly on March 16th, 1912, by the usual transphenoidal procedure, the bulging sella, its base partly absorbed by pressure, was brought to view. On incising the tense dural capsule, soft tumour began to extrude itself, and, for the day, a fairly generous amount of the adenomatous tissue was scooped out. This afforded immediate and complete relief from the headache, normal visual field peripheries were restored, and he was discharged happy.

The patient was lost sight of until November 6th, 1920 (eight years later), when, in response to a letter of inquiry, he reported in person to inquire whether a plastic resection of his jaw might not restore the alignment of his teeth and at the same time improve his appearance. Apart from his increasing prognathism (Figs. 22, 23), he felt content with his lot, for he had had no headaches or disturbance of vision since his operation, his sexual vigour had been restored, his general health was perfect, and he had been able to keep steadily at work. Nevertheless, the malady was evidently progressing. His weight had increased to 228 lb., and for two years he had shown a moderate glycosuria, which had been kept under control by dietary restrictions.

Recently, on May 18th, 1927, he again reported, on request, for further examination, fifteen years having elapsed since his operation. During this long period he has been notably exempt from the distressing waves of inertia and drowsiness from which acromegalics often suffer. There have been no headaches whatsoever, and vision remains unimpaired. He has been sufficiently successful in business to justify his marriage eighteen months

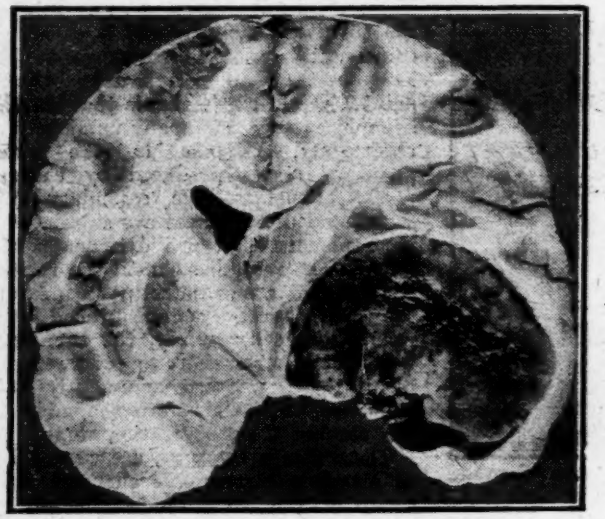


FIG. 17.—Showing large, unsuspected, and symptomless intracranial extension of a chromophile adenoma in a case of acromegaly.

ago, and he is the proud father of a healthy son 4 months of age. In spite of all these favourable signs, his acromegalic manifestations have slowly progressed (Figs. 24, 25). His weight has increased to 245 lb.; his glycosuria persists; and with the further enlargement of the acral parts, his mandibular arch has become so enormous that dental occlusion is completely lost and the jaw when closed rides up to his nose.

From the standpoint of the tumour symptoms, taken by themselves, this would seem to be a sufficiently favourable end-result. But in the present state of our knowledge, may we not look forward to accomplishing something more for similar cases? A sufficient number of observations have been accumulated to justify an affirmative answer to this question, for they tend to show that the secondary constitutional expressions of hyperpituitarism, as something apart from its tumour effects, may be considerably ameliorated by surgical procedures.

There is, to be sure, nothing novel about this. In the first recorded operation upon an hypophyseal tumour associated with acromegaly Hochenegg observed a striking postoperative shrinkage in the tissues; and the same phenomenon was noted in my first case, operated upon shortly afterward:[10]

> The patient was a man, aged 38 years, with outspoken acromegaly of eight years' standing, who was victimized by severe and persistent cephalalgia. Under the assumption that his discomforts were due to distension of the sensitive glandular capsule, it was hoped that the mere "decompression" of the sella might serve to palliate them. However, with the enlarged gland well exposed, I succumbed to the temptation to remove a considerable portion of it, and not only, to my gratification, were the man's headaches promptly relieved, but, to my surprise, there was a striking and unexpected post-operative change in the appearance of the patient's face and extremities. This was due, apparently, to the shrinkage of the previously boggy subcutaneous tissues, which left the skin supple and finely wrinkled.

In retrospect I feel that insufficient importance was laid upon the significance of this early observation, but, as a matter of fact, during the next several years, while the complicated technique employed in this first case was being simplified, attention was chiefly paid to combating tumour symptoms produced by the far more common adenomas of the chromophobe variety.

During this period patients with acromegaly were being

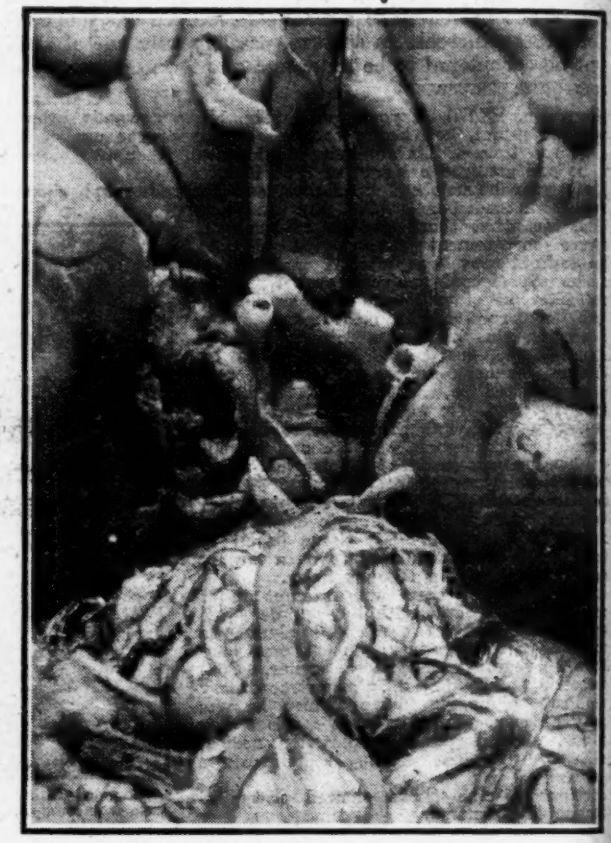
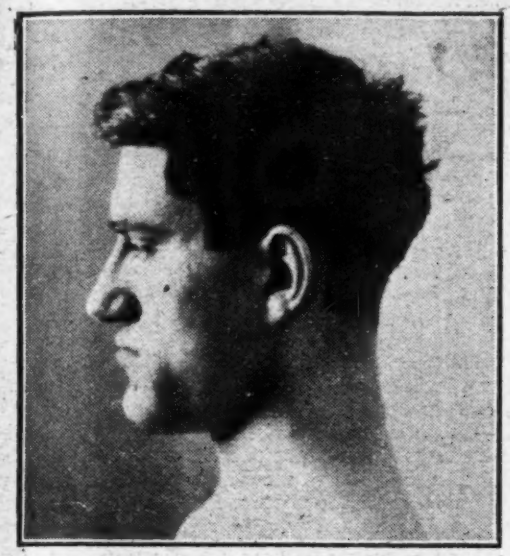
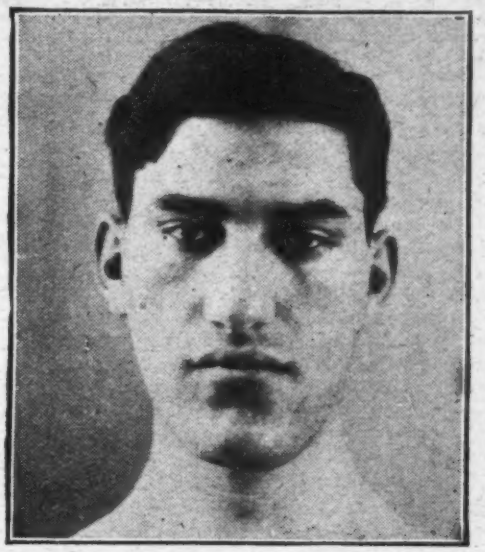


FIG. 18.—To show (natural size) the intrapeduncular space and the broken neck of the laterally projecting adenoma. (*Cf.* Fig. 17.)

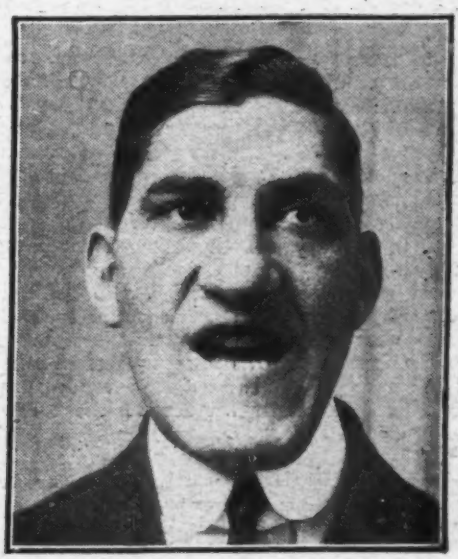
surgically treated on much the same basis, with the sole object of relieving local pressure symptoms, and only when the sella was greatly enlarged and vision was implicated. But from time to time, more by accident than intent, the operation was followed by an unexpected improvement in the "acromegalism" itself; and in an occasional case the progressive malady appeared to be actually checked. The following record may be given in illustration.

> (Surg. No. 3657.) A married woman, aged 27, was admitted to the hospital on October 6th, 1915, and gave the following story. She had married in 1907 at the age of 19, and a year later gave birth to a healthy child. Previously an active woman, she subsequently became drowsy, asthenic, susceptible to colds, experienced a loss of libido, and finally in 1912 became completely amenorrhoeic. Meanwhile her weight increased from 128 to 158 lb., and her hands got so puffy that her rings and gloves could not be worn. In course of time she began having dull headaches, and her visual acuity became impaired. Ere long a temporal constriction of the fields of vision became apparent, and the suspicion of a pituitary tumour was aroused.
>
> In addition to the unmistakable clinical and roentgenological evidences of early acromegaly, the physical examination disclosed a bitemporal hemianopsia and a sella considerably increased in size (Fig. 26). On the basis of these findings an operation was advised. Accordingly, on October 9th, 1915, by the usual transphenoidal approach the floor of the bulging sella was exposed, and a considerable amount of adenomatous tissue, which proved to be chromophilic in character, was removed.
>
> The operation was followed by prompt improvement in vision with early re-establishment of normal field peripheries. But what

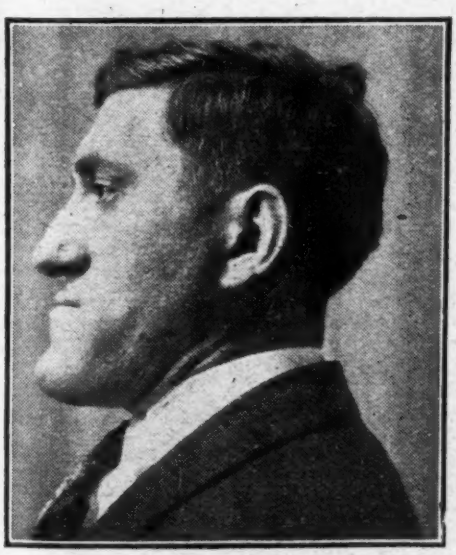




FIGS. 20 AND 21.—(Case 29304.) Showing the patient's facial contours, March 13th, 1912, shortly before operation. Aged 23 years.



FIGS. 22 AND 23.—(Case 29304.) Showing same patient eight years later (cf. Figs. 20 and 21) at the age of 31 years.



FIGS. 24 AND 25.—(Case 29304.) To show the patient's advancing deformity, after fifteen years, aged 38. Note the difference in comparative width of forehead and face in Figs. 25 and 21.

is more important in our present connexion is this bedside note of October 13th, made by Dr. E. B. Towne, the house officer: "The patient calls attention to the fact that her hands have become less puffy than before. She has tried on a glove and finds that it slips on more readily than usual. On examination it is evident that the skin of the dorsum has become wrinkled and that the previous thick and oedematous condition has largely disappeared." She was discharged on October 19th.

A letter written a month later (on November 30th, 1915) states: "I gain in strength each day and feel like a different person. My husband says that his wife has been changed for another woman." Subsequent notes state: that, on March 6th, 1916, after three years of complete amenorrhoea, normal menstrual periods were resumed and continued for seventeen months, when she became pregnant; that a healthy child was born which she nursed for eight months; that on weaning the child, though catamenia became re-established, the periods were increasingly scanty and finally ceased.

In July, 1918, when I was overseas, she reported to the hospital that her vision was once more becoming impaired; and by the time of my return in April, 1919, a bitemporal hemianopsia was again present. As I did not feel inclined to undertake one of these operations at the time, she consulted another surgeon, who, by a lateral osteoplastic cranial procedure, exposed and removed a pituitary tumour, said to have been the size of a wild plum.

Though this operation has served to restore permanently useful vision, which was its main object, it has left the patient subject to occasional convulsions, and apparently in a state of slight pituitary insufficiency, in spite of which she continues to have occasional irregular menstrual periods. She is now 39 years of age, her chief complaint when recently examined (1927) being a tendency to adiposity. She has the unmistakable appearance of slight hypopituitarism, and a constantly subnormal temperature; but she leads an active life and regards herself as reasonably well.

Here, then, was a woman with early symptoms of acromegaly associated with a chromophilic adenoma large enough to cause pressure symptoms, for the relief of which two operations were performed, one from below and one from above. These consecutive procedures not only served their primary purpose of preserving vision, but they have so far overcome her hyperpituitarism as to leave her in a dyspituitary state similar to that which characterizes the adenomas of transitional type previously discussed. Since the tissues removed at the second operation were not subjected to differential stains, one cannot be positive that the cells were still acidophilic in character, but, so far as is known, an adenoma primarily acidophilic remains so. Certainly after corresponding operations for a chromophobe adenoma, with a degree of hypopituitarism sufficient to cause amenorrhoea, the re-establishment of catamenia would not have occurred, for the procedure would, if anything, have added still further to the already existent glandular deficiency.

For the purpose of my argument, the foregoing two cases have been selected, rather than other no less striking examples, because they have a sufficiently long post-operative history to give some idea of the end-results of the surgical procedures. Both had large sellas with neighbourhood symptoms, for which reason the surgical indications were clear. In the first case, one of well advanced acromegaly, the pressure symptoms have been permanently relieved, but the disease has slowly progressed. In the second, an early case of acromegaly, not only have the pressure symptoms been to all appearances permanently offset, but the hyperpituitarism has been so effectively checked as indeed to be replaced by evidences of slight glandular deficiency.

Since the mortality of these operations for adenomas of all kinds and sizes has reached the low figure of something under 4 per cent.,* we have begun to feel justified in favourable circumstances in taking the next obvious step—namely, in making a direct, early attack on the adenoma of acromegaly while the sella is still small, in the hope of forestalling the oftentimes disastrous secondary effects of hyperpituitarism.

This step, I hardly need say, is precisely comparable to that which was taken to combat the effects of hyperthyroidism regardless of the size of the associated tumour. But even in the less complicated case of the thyroid, when operations began to be undertaken for exophthalmic goitre, the largely subjective and impressionistic reports concerning them were not favourably received by a sceptical profession. Nor did they become really convincing until the estimation of the patient's basal metabolic rate was utilized as a more or less satisfactory means of registering numerically what had been accomplished.

So with operations for hyperpituitarism, the secondary effects of which are more complex and far-reaching than those of thyreotoxicosis, the mere statement that the patient has been subjectively improved or that the "acromegalism" appears to be less marked is insufficient. We must reach out for some actual measure of the patient's improvement. Meanwhile, in place of something better, we may take recourse in the following three factors, though they unfortunately are not applicable to all cases. They are: (1) the diminution in weight and size; (2) the change in the basal metabolic rate; and (3) the alteration in the blood sugar percentage. A word may be said concerning each of them.

Weight.—When the daily injections of anterior lobe extract cease to be given to a rat with experimental gigantism there is a surprisingly rapid loss of body weight. This loss must occur in the tissues, for the skeletal enlargement, once attained, is naturally unalterable, or largely so. Quite comparable to this is the considerable loss of weight exhibited by acromegalic patients that follows upon the even partial removal of an acidophilic adenoma. Associated with this loss of weight there is often a distinct lessening of the patient's acromegalic appearance, and the extremities may show an actual measurable shrinkage in circumference. Nothing of this sort occurs after the removal of a chromophobe adenoma in hypopituitary cases.

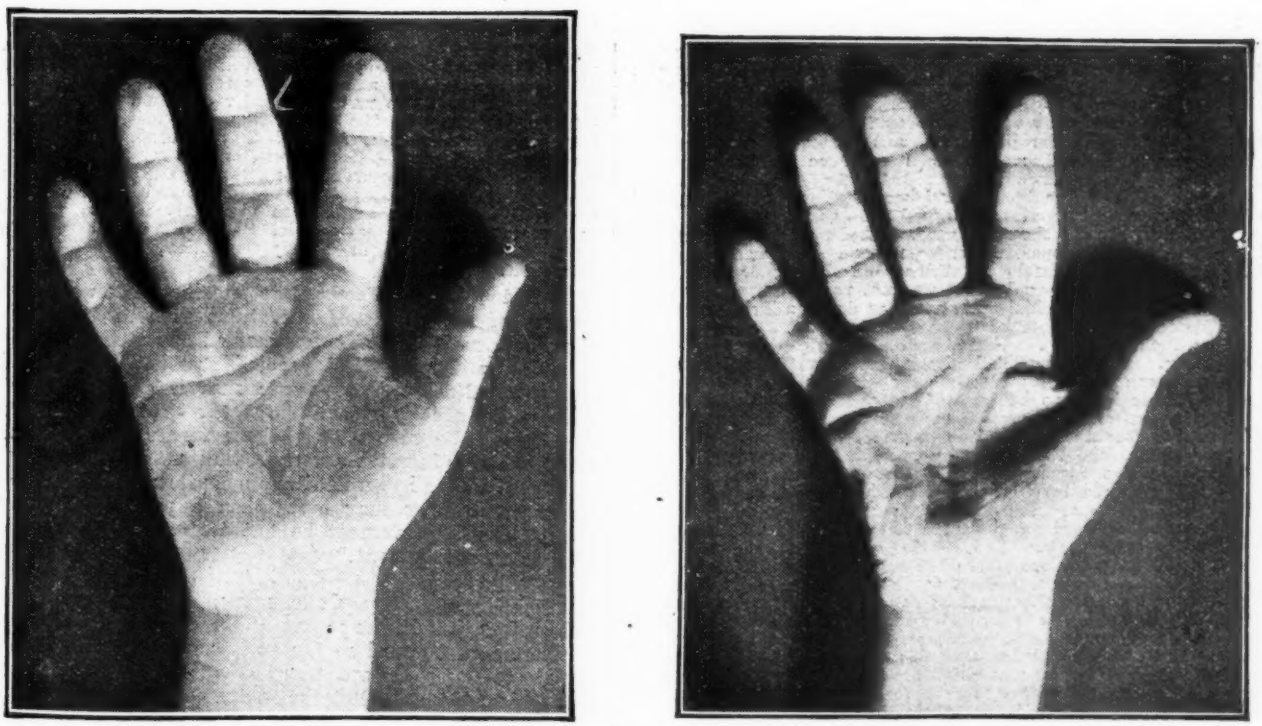
The Basal Metabolic Rate.—Here we tread upon less secure ground, largely for the reason that the clinic has got somewhat ahead of the experimental laboratory. We know that patients with hypopituitary states tend to have a subnormal metabolism, whereas in acromegalics the metabolism is often (though not always) high. We know, too, that in hypopituitary states, both experimental and clinical, the thyroid gland is atrophic, whereas in the counterposed state represented by acromegaly the thyroid is often so hyperplastic that it may even be operated upon for symptoms suggesting thyreotoxicosis. Is the increased metabolism of acromegaly therefore ascribable to the hyperpituitarism or to an independent condition of hyperthyroidism, or are the two interdependent? This is a question which Dr. Davidoff and I have attempted to answer from a clinical standpoint, being fully aware that far more definite returns will some day be supplied through studies of the basal metabolism of hyperpituitary rats. For our present purposes it may suffice to say that, whether or not the increased metabolism in acromegaly is primarily of hypophyseal (which we believe it to be) or primarily of thyroid origin, it can be as definitely lowered by a partial hypophysectomy as by a partial thyroidectomy. Hence estimations of the basal metabolic rate may serve in some sort, and in suitable cases, as an indication of the degree to which a hypophysectomy has diminished the glandular overaction.

Blood Sugar Determination.—Here too we are concerned with a similar question which has to do with one of the complicated secondary effects of hypophyseal activity on another element in the endocrine series—the pancreatic islets. In the long run, hypopituitary patients exhibit a high tolerance for carbohydrates, whereas acromegalics tend to have glycosuria or even diabetes, which may be of such severity as to end in coma. Is this wholly and independently pancreatic, or does the hypophysis play some role in the process? To this question also we have attempted to give an answer. And though as yet we have no experimental confirmation of our clinical findings, it may be said, briefly: (1) that acromegalics, even in the absence of hyperglycaemia or glycosuria, tend to show a relative intolerance for carbohydrates; and (2) that by a partial hypophysectomy this relative intolerance may be reduced, an existent glycosuria may be checked, and even when diabetes is established the patient's susceptibility to the action of insulin appears to be increased.

By means of these three tests, then—by the shrinkage of hyperpituitary tissues, by the lowering of the metabolic

* To May 1st, 1927, there have been in my entire series 264 verified adenomas with a total of 291 operations: 253 by a transphenoidal route with 17 fatalities (6.7 per cent.), and 38 by a transfrontal route with 2 fatalities (5.0 per cent.). Owing to the greater difficulty of the operations in cases of acromegaly, the mortality percentages for chromophilic adenomas are slightly higher than for the chromophobe variety. In the last 50 operations, including both types, the operative mortality has now been only 3.8 per cent.

FIGS. 27 AND 28.—(No. 26204). Outspoken acromegaly associated with a comparatively small adenoma. (Cf. Fig. 29.)



FIGS. 30 AND 31.—(No. 26204.) To show by the pre- and post-operative photographs of the patient's right hand the subsidence of the hyperpituitary oedema.

rate, and by an increase in carbohydrate tolerance—we have at our disposal some measure, however crude, of the effect of our operations in diminishing hyperpituitarism. After this long explanatory digression let us now return to the subject at hand, and to the consideration of two or three cases of acromegaly with comparatively small adenomas that have been operated upon with the primary object of checking the disease itself.

(Surg. No. 26204.) A Russian tailoress, 23 years of age, unmarried, was admitted to hospital on April 22nd, 1926, with the usual major complaint of severe headaches. She had been known to have acromegaly for a number of years, and on the advice of her physician she had been given a series of deep *x*-ray treatments, which had failed to alleviate her discomforts. Meanwhile her catamenia, which had set in at the age of 14 years, continued without interruption, though she had become somewhat masculinized and, for her sex, extremely hirsute.

She had (Figs. 27, 28) the typical enlarged extremities, hypertrophic nose, lips, and tongue of a fairly advanced case of acromegaly, and the spine showed a well marked kyphosis. Her height was 171 cm., and her weight 84.6 kilograms. The sella turcica was not greatly enlarged (Fig. 29) and there were no local pressure signs. The basal metabolic rate was +24 per cent., though the thyroid was not palpable.

On May 10th, 1926, by the customary transphenoidal route a fairly radical removal of the glandular contents of the sella was accomplished by pituitary rongeurs and "sucker." The tissue showed a typical acidophilic adenoma. Within a week after the operation there had taken place a marked diminution in the puffiness of the hands, the skin having become thinner, softer, and more pliant. To this the patient herself first called attention. This change was sufficiently marked to be shown photographically (Figs. 30, 31) as well as by actual measurement. Meanwhile, she had lost several kilograms in weight, and by the time of her discharge on June 3rd her basal metabolic rate had dropped twenty points, to +4 per cent.

She has, at the time of writing, remained free from headaches for a year, and her hands and feet no longer feel stiff and swollen as they formerly did. The basal metabolism remains low.

Out of several, I may select another example of similar kind in which a well established acromegaly associated with a comparatively small tumour has been for the time being benefited, not only subjectively but measurably.

(Surg. No. 27770.) A dentist, 47 years of age, was admitted on December 8th, 1926, because of severe cephalalgia. His headaches, which had begun in 1909, had steadily increased in severity until the pain with associated photophobia and attendant loss of sleep had completely incapacitated him from work. It was not until 1920 that he was suspected of having acromegaly, but for several years before then he had observed a progressive increase in the size of his head, hands, and feet. He formerly wore a $6\frac{7}{8}$ hat and now requires a $7\frac{3}{8}$ size; formerly a $7\frac{1}{2}$ shoe, he now requires a 12; a $7\frac{3}{4}$ glove, now 11; a $14\frac{1}{2}$ collar, and now wears a 19 size. Meanwhile, his weight gradually increased from 148 to 236 lb., and his hair had turned preternaturally white. He was married at the age of 25 and his only child is now 21 years old, the failure to have other children being ascribed to a complete loss of libido.

In 1925 he was given a series of *x*-ray treatments, which at first greatly accentuated the headaches, but subsequently gave temporary relief. They, however, soon returned in their former intensity.

The clinical and roentgenological examinations on his hospital admission revealed typical advanced acromegalic changes. The skull (Fig. 32) showed the usual expansion of the frontal sinus, but the sella was only moderately enlarged, and there were no visual field defects. The basal metabolism on December 10th was +13 per cent.; the thyroid gland was not palpable.

The usual transphenoidal operation was done on December 16th, with the double purpose of relieving, if possible, his headache, and with the hope of at the same time checking his hyperpituitarism. A soft tumefied gland was exposed, and a fairly radical though somewhat bloody extirpation was made of what proved histologically to be an acidophilic adenoma.

Four days after the operation both he and his wife called attention to the fact that his hands, previously stiff and puffy, had become supple, and that the skin was finely wrinkled; also that the skin of the forearms had become so loose and soft that it could be picked up in folds. He tried on the snugly fitting gloves which he was accustomed to wear, and found that they slipped on with surprising ease, and felt actually loose. The same was true of his shoes.

A clinical note on December 23rd reads: "Patient states that not only are his hands smaller, so that he can see between the closed fingers for the first time he can remember, but the tactile acuity of the finger-tips has greatly increased. Whereas for years things have felt numb and indistinct, he can now distinguish, for example, the individual hairs of his shaven beard—a sensation he had almost forgotten was possible. His lips are unquestionably smaller, possibly his tongue, for he feels that his speech is much less thick than formerly."

His discharge note on December 31st reads: "Headaches have entirely disappeared. Patient's whole aspect greatly improved owing to loss of the puffy appearance of the tissues, previously so marked. There is actual wrinkling of the terminal pads of the fingers. Sweating, which was previously excessive, is much less than before. The basal metabolism has dropped from +13 per cent. on December 10th to −7 per cent. on December 30th. He has lost meanwhile 2.5 kg. in weight, in spite of a notable increase in his appetite."

On February 3rd, 1927, he wrote: "I have enjoyed my work more the past three weeks than I have in years. I have not missed a night's sleep, whereas for a year before the operation I did not have an uninterrupted night. I weighed 182 lb. before the operation in spite of my inappetence. I now weigh only 175 lb., though at each meal I eat more than double the amount I used to."

In both of these cases the evidences of acromegaly were full-blown at the time of operation, and yet in both there were post-operative indications of lessened glandular activity, if the loss of weight and the lowered basal metabolism may be relied upon. As neither of them showed any disturbance of carbohydrate metabolism, the sugar percentages could not be used as an additional measure of their improvement. Consequently one further example in which this test could be applied may be called for.

(Surg. No. 25410.) An Italian woman, aged 22, married, was first admitted to the hospital on December 17th, 1925, complaining, among other things, of troublesome headaches. Previously in good health, she had married at 19, and a year later gave birth to a healthy living child, which she had nursed. On weaning the child normal menstruation had been resumed. However, since the time of her pregnancy she had never been free from headache, and had grown, as she expressed it, "big all over." Her features had become coarse, her hands and feet puffy, her skin hirsute, and, formerly slight, her weight had increased to 213 lb.

She had an enlarged and palpable thyroid and a basal metabolic rate of +25 per cent. There was also a slight glycosuria. She was looked upon as a possible case of acromegaly, but there were some uncertainties about this, and as her sella turcica was not definitely enlarged (Fig. 33) she was given some general directions and referred to the ambulatory clinic.

Eight months later, August 27th, 1926, she was again sent into the hospital, because of continued cephalalgia, which had made her practically bedridden. Her basal metabolism was again found to be +25 per cent.; her blood sugar was 0.11 per cent.; and she showed glycosuria averaging daily from 0.7 to 0.8 per cent.

She was kept under observation for a month of ineffectual study. She might well enough have been regarded as having a polyglandular syndrome of some sort, not necessarily hypophyseal in origin, though, as a matter of fact, all hypophyseal disorders are polyglandular. On the basis of her increased metabolism and enlarged thyroid Lugol's solution was given a prolonged trial, but this failed to lower her basal metabolic rate in the slightest. It was finally decided that primary hyperpituitarism could alone account for her symptoms, and, in spite of the small sella, it was proposed to operate, with the double purpose of checking her subjective discomforts, if possible, and at the same of combating the constitutional effects of the disorder.

Accordingly, on September 20th, 1926, by the customary transphenoidal route a fairly radical extirpation of the sellar contents was made. The tissue proved histologically to be a typical chromophile adenoma.

She made an excellent operative recovery with immediate cessation of the headaches. Her glycosuria, which had been constantly present during the pre-operative period of study, had disappeared on the following day, and the urine remained sugar-free for the next month while she was kept under observation. There was a coincidental drop in the blood sugar to below 0.1 per cent. Successive forty-eight-hour metabolism determinations showed a progressive fall from +25 per cent. on the morning of operation to +3 per cent. on September 30th, ten days afterwards, at which level it remained. There was a definite diminution in the measured size of her hands; the previously wet and puffy skin became normally dry and supple. At the time of her discharge, on October 20th, without dietary restriction, she had lost 3 kg. in weight.

It is too soon, of course, to speak with any degree of finality of the effects of operations such as these I have described, which at best are carried out somewhat blindly in a deep and relatively inaccessible pocket. In comparison the removal of a thyroid adenoma is child's play; and without completely clearing out the content of the sella one cannot be sure that the fragments of adenomatous tissue almost inevitably left behind may not revive and produce further hyperpituitary symptoms. The very fact, however, that we may accomplish anything at all, even though the improvement be but temporary, is enough to give us encouragement.*

CONCLUSION.

I confess that in the report of these few cases I have put my best foot forward so far as it concerns the influencing by operation of the secondary effects of hyperpituitarism. But I cannot belittle the extreme complexity of the surgical problem in a malady where symptoms are so bizarre and varied, and which is subject to spontaneous remissions.

* I have purposely refrained from mentioning deep radiation as an alternative to surgery in the treatment of an acromegalic adenoma. I have seen beneficial results in some cases and also harmful ones. So, too, has deep radiation proved beneficial in the treatment of thyreotoxicosis, but it has not as yet come to take the place of operative procedures.

How far we may safely go, how nearly we may venture to approach totality of extirpation of an acromegalic adenoma, time and experience only will tell.

We know from clinical experience, just as we have learned from the canine experiments of Camus and Roussy, of Bailey and Bremer, and from the experiences of Smith with the rat, that serious consequences ensue upon damage to the hypothalamic centre. It is a region to be shunned lest diabetes insipidus, excessive adiposity, and even a fatal cachexia supervene. It is for this reason that operations for the congenital suprasellar cysts I have spoken of are particularly difficult and hazardous. On the other hand, transphenoidal operations from below are even more blind, and there is the added risk of a cerebro-spinal rhinorrhoea and infection. Sometimes one, sometimes the other route is preferable. I am not here to plead for either, for this is a side issue on which surgeons, given time, will come to an agreement.

We have seen that there are an enormous number of secondary factors to be considered, which lie quite apart from the mere tumour and its pressure effects. That the hypophysis is primarily concerned with growth the brilliant studies of Evans and Smith that I have quoted leave unquestioned. No less definitely do these experiments show that it is an activator of the reproductive organs. Nature has provided that neither the pathological giant nor dwarf should reproduce his kind. These states, which necessarily originate in pre-adolescence, are represented by corresponding ones which set in later in life when normal skeletal growth has been attained. In these circumstances, too, for different causes apparently in the counterposed states of hypophyseal overaction and underaction, the functions essential to reproduction are interfered with. But this is only the beginning of a long sequence of alterations in other glands, affecting the thyroid and pancreatic islets in ways we partly understand, the parathyroids, adrenal cortex, and the rest in ways we do not.

Lastly, and not the least important, are the final stages in the two conditions of glandular insufficiency and overactivity: on the one hand the tissues atrophy with resultant senility and cachexia; on the other hand, splanchnomegaly and tissue hypertrophies are produced which, as in the case of the heart, lead to equally dire consequences. The surgeon who would operate on acromegaly must avoid the Scylla of the former in dodging the Charybdis of the latter. Not until some practical form of substitution therapy is at his call will he properly run the risk of overdoing his extirpation, for a daily homoplastic transplant so strikingly effective in the hypopituitary rat is out of his reach.

I have attempted in this address to bring some order out of the therapeutic chaos which envelops the subject of the pituitary disorders. Whether I have succeeded does not particularly matter. Order will some day come, and the best that can be done in the circumstances is to give hints in that direction. Hints, after all, may serve a useful purpose. Did not Lettsom so entitle as "Hints, Designed to Promote Beneficence, Temperance and Medical Science," a three-volume series of his suggestive articles[9] I was encouraged in the preparation of this address by one of his paragraphs, written on June 23rd, 1773, proposing the establishment of this Medical Society.

> Many useful facts [he says] are lost from the want of a proper opportunity of conveying them to the world; and though, when considered separately, they might not be of sufficient importance to claim the attention of the publick; yet when a number of them may be collected together, they may become highly deserving of notice. To such facts, when properly authenticated, the Society will always be particularly attentive.

And so, in respect to the memory of that industrious, successful, and many-sided man, your founder, if I shall have given for your guidance the latitude and longitude of this "Little Vandyke" of Medicine, the pituitary body, somewhat more precisely, I shall be well content.

REFERENCES.

[8] Bailey, P., and Davidoff, L. M.: *Amer. Journ. Path.*, 1925, i, 185-207.

[9] Cushing, H., and Davidoff, L. M.: The Pathological Findings in Four Autopsied Cases of Acromegaly, with a Discussion of their Significance. *Monographs of the Rockefeller Institute for Medical Research*, No. 22, April 25rd, 1927.

[10] Partial Hypophysectomy for Acromegaly. *Annals of Surgery*, December, 1909, p. 1003.

THE RATIONAL BASIS FOR TUBERCULIN THERAPY.

BY

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Now that we begin to understand the part played by the allergic inflammatory reaction in the healing of tubercle, tuberculin, which possesses the power of stimulating this reaction, should come again to the fore as an important therapeutic measure.

It is now nearly forty years since Koch[1] announced to the world that he had discovered a "lymph" which possessed curative powers in tuberculosis. After the furore which followed the announcement had passed it was generally believed that the lymph had failed, but certain observers saw hope, for results were not uniformly bad. Healing did occur in certain instances. Members of the small group which was favourably impressed continued their studies and observations. Koch, while disappointed, did not despair. He knew that in the difference in reaction of animals toward first infection and reinfection lay the basis for a specific therapy for tuberculosis; and its attainment was of such great moment to a world which was yielding up one-seventh or more of its population to this disease that he persisted in his search in spite of all opposition.

Tuberculosis Healed by Allergic Inflammatory Reaction.

It is well to recall the observation which caused Koch to believe in the possibility of a specific cure for tuberculosis. It follows his description of the difference in reaction of animals to first and successive inoculations of bacilli, either dead or living, as follows:[2]

> "After I had observed this particular fact I investigated it under every conceivable condition, and finally proved that dead cultures of tubercle bacilli rubbed up and mixed with water could be injected under the skin of healthy guinea-pigs in large doses without any effect beyond a local necrosis. (Those injections which were free from living bacilli were the simplest and surest means of producing necrosis.) Tuberculous guinea-pigs, on the other hand, were killed by the injection of relatively small quantities of such killed cultures, in from six to forty-eight hours, according to the size of the injection. A dose insufficient to kill the animal might produce an extensive necrosis of the skin at the point of inoculation. If the emulsion was diluted so that it was only slightly opaque then the animal remained alive, and if the injections were repeated with intervals of one or two days a marked improvement in the condition took place; the ulcer at the site of inoculation became smaller and finally healed, a thing which never occurred without such treatment. The swollen lymph glands became smaller; the state of nutrition improved; and if the disease process was not too far advanced and the animal was not losing strength too rapidly, a state of quiescence ensued. In these observations there is found a basis for a cure for tuberculosis."

The important part of this observation is that if the dose was sufficiently small, and if repeated at two- or three-day intervals, the animal not only remained alive but showed improvement. The ulcer at the site of inoculation healed—"a thing which never occurred without such treatment."

The fact that tuberculosis heals itself by inflammation occurring as a result of allergic reaction called out by bacilli escaping from foci already existing within the host or from infections coming from without is now universally recognized.[3] In natural infection immunity is built up by repeated reinoculations of bacilli, the source usually being the original focus or some successive focus produced from it. Immunity is built up in experimental animals by repeated inoculations with small numbers of bacilli, always short of the number necessary to cause uncontrollable infections. Each infection that is overcome leaves the host with an increased resistance to future infections. Stimulation of unhealed foci previously existing is a part of the reaction following reinfection. It also follows the injection of bacillary protein. Uhthoff[4] reported ten cases of ocular tuberculosis treated by old tuberculin, when large doses were being used. He started with 0.5 or 1 mg. He produced violent focal and general reactions, and even noted a spread of the disease in three instances, but all

ended in healing. Königshofer and Maschke also reported a case of corneal tuberculosis which healed after one violent focal reaction. The same tendency to heal following reactions is seen in foci existing in parts of the same lung distant from the site of a reinfection or in the opposite lung, or in the larynx, glands, testicle, or other organ. While these reactions give the picture of acute inflammation, they are a part of the allergic response. Focal reactions caused by reinfection and the injection of tuberculin seem to be identical.

Caseation and Fibrosis: Acuteness and Chronicity.

Two distinct processes go on side by side in tubercle: caseation in the centre, and fibrosis at the periphery. These occur in both primary and secondary tubercle. When fibrosis predominates healing results. Even caseous tubercle often heals by an encapsulating fibrosis encroaching upon the tubercle and penetrating toward the centre of the caseous mass. The allergic reaction, according to its severity, varies between two distinct effects—proliferative and destructive. In most distinguishable reactions evidence of both is present. Slight reactions show a predominance of the proliferative or productive effects, and severe ones of destructive effects. The acuteness or chronicity of the tuberculous process depends on the relative predominance of these phenomena, as has been so well described by Aschoff.[5]

"The manner and course of the process varies between two extremes of reaction with numerous transition forms. On the one hand, one has to deal with marked chronic cases with a definite tendency to healing in the individual foci. . . . Here the productive character of the reaction characterized by the occurrence of granulation tissue with its histocytic elements (the so-called epithelioid cells), the giant cells, lymphocytes, and plasma-cells, predominates. This avascular tissue caseates slowly. It either becomes surrounded by a hyaline ring, or else goes over to a specific hyaline scar, without caseation. Such a productive reaction is to a certain extent characteristic of a special state of tissue immunity, and is a token of increased resistance. On the other hand, there are cases which run a more acute or subacute course following reinfection. Here, within the respiratory passages, the characteristic exudative reaction is mostly in evidence. This consists of large exudative cells (alveolar epithelium, wandering histocytes) and a marked amount of fibrin containing varying numbers of leucocytes, which has a tendency to rapid caseation and softening. Encapsulation and healing meet with difficulties. The exudative reaction is a sign of lowered resistance, a rapidly progressive destruction."

The important fact is that chronic tuberculosis, which is accompanied by marked immunity of the host, is characterized by repeated slight reactions due to repeated new infections of small numbers of bacilli, in which production of new tissue predominates; and furthermore, that these same phenomena characterize slight tuberculin reactions. They are usually so slight that they are not even accompanied by elevation of temperature. Acute active tuberculosis, on the other hand, which is characteristic of relatively low immunity, is produced by repeated inoculations of large numbers of bacilli and is characterized by a markedly exudative process with caseation and necrosis. This same type of severe reaction is found when tuberculin is administered in very large doses. In other words, small doses of bacilli or tuberculin in the tuberculous animal or man stimulate fibrosis and favour chronicity, while large doses of bacilli or large doses of tuberculin, particularly if often repeated, favour caseation, necrosis, and acuteness.

Tuberculin possesses Immunizing Properties similar to Bacilli.

Tuberculin, when introduced into the tissues, has at least some of the properties of living and dead bacilli. Both living and dead bacilli will cause histologic tubercle, which is a non-specific tissue response; both will create an immunity response in the host; and both will call forth an allergic reaction favourable to healing in an individual, animal or man, who is already infected. Certain experiments seem to indicate that tuberculin possesses all of these properties, though the first two in very slight degree. It has recently been shown that tuberculin will produce histologic tubercle,[6] although previously this had always been denied. Certain preparations containing the bacillary wax might easily do so. Immunity has also been reported as having been produced by tuberculo-protein in non-tuberculous animals, although it is of slight degree and evanescent. But tuberculo-protein will call forth the specific allergic reaction in tuberculous individuals, increase the existing immunity, and promote healing in a manner similar to living or dead bacilli. Herein lies its claim as a therapeutic measure.

We cannot separate tubercle from the allergic reaction, because this immunity response begins as soon as infection is well established. Skin sensitiveness, which is an indication of the presence of allergy, begins to show shortly after inoculation, and is well established in from three to five weeks, according to the severity of the infection, being shorter in severe and longer in mild infections. While it is possible for the body to wall off and encapsulate particles of inanimate substances and hold them imprisoned indefinitely, it is questionable whether it could encapsulate and retain permanently viable tubercle bacilli without the aid of the specific cellular response. Allergy is established only in response to tubercle bacilli and their products. We accept it as a measure of the patient's resistance, and note that it is increased by repeated infections provided they are of such size that the host can manage to bring them to a state of quiescence. Reports from the Saranac Laboratory are in harmony with others on this point, as follows[7]:

"A long series of unpublished experiments from the Saranac Laboratory and the experience of many other observers indicate that reinfected animals live at least twice as long as those receiving only one inoculation."

If the host is able to overcome a very severe reinfection, his allergy or immunity is correspondingly greatly increased. Aschoff[8] says:

"The more markedly chronic phthisis of an organ develops in connexion with the generalization period, and the longer it exists, granting the presence of a sufficient amount of resistance in the individual, the more thorough will be the immunization and the more difficult it will be for the exogenous infection to engraft itself upon the lungs, or, if it occurs, the less rapid will be its progress. Should the individual skip the generalization stage, or the metastatic spread come to a rapid termination, then the immunization process will be broken off prematurely. The reinfection will take hold more readily and will lead more quickly to a progressive chronic phthisis."

It is estimated by Aschoff that about 40 per cent. of primary infections heal completely and protect the individual from further infection. The remaining 60 per cent. have reinfections. Aschoff is so convinced of the necessity of establishing immunity through infection in order to protect the child and then to heal it through allergic reaction that he suggests[9]:

"Absolute prophylaxis against infantile infection will be desirable, then, only when we shall be able to replace the naturally induced immunity by an artificial one, or else completely get rid of the most serious infection of later life. It would be well worth while in our battle against phthisis if we could at least induce a limited artificial infection on top of the primary infection, and thus dam back the metastasizing process."

While such a suggestion does not seem practicable just now, yet it may not be so far off. The immunization of infants by living non-virulent bacilli, as carried out by Calmette, brings the probability of such a course nearer.

The time to cure tuberculosis is when the lesion is small. The 60 per cent. of tuberculous individuals who show reinfection because their primary focus fails to heal deserve careful attention in the programme for the prevention and cure of tuberculous disease. Every such case must be looked upon as a potentially active clinical tuberculosis. What prevents such an outcome in any of this group is that reinfection in certain instances builds up a protective mechanism to such a degree that exogenous infection is barred. The allergic property of the cells encapsulating existing foci is stimulated, sealing up the patient's own bacilli and preventing them from becoming a further menace. Small doses of bacilli repeated at not too short intervals will do this; but, so far, we can only depend on the accident of natural reinfection, which too often proves unreliable by producing a spreading disease which does not stop until beyond bounds.

Tuberculin has the property of utilizing the allergic reaction in healing. It will stimulate the defensive inflammatory response and aid in walling off infection. It is in these early cases of failure to heal that tuberculin is especially valuable. I have treated many of the children of parents who have been under my care during the past

twenty-five years. I have found that tuberculin has been able to produce just the effect that Aschoff speaks of as being so desirable. Children up to the age of 10 or 12 years respond readily to tuberculin, and even those who show evidence of more than average infection respond more readily when it is added to other measures for relief.

Needless to say, the ideal cases of tuberculosis for tuberculin treatment are the same as for any other form of treatment—those with limited areas of involvement in which fibrosis predominates. The exudative type is not so favourable for treatment, but need not be excluded. In many a patient suffering from the exudative type of tuberculosis its character can be changed, so that fibrosis becomes the dominant characteristic; and just as small reinoculations produce this effect in the natural course of the disease, so can small doses of tuberculin aid in establishing the same result if injected at not too short intervals.

It has long been recognized, even by those who are not particularly inclined to use tuberculin, that patients in whom the healing process has come to a standstill are often helped by tuberculin. Many curable cases of tuberculosis can secure sufficient stimulation of their immunizing forces to produce healing without any artificial or therapeutic aid. The reactions produced by their own reinfections are sufficient. But Nature sometimes fails, and it is often highly desirable that the allergic reaction should be still further invoked in order to bring about focal response. Stimulation of the allergic reaction can only result regularly from reinoculations of bacilli, or from the administration of dead bacilli or bacillary protein. Therefore in all instances when further allergic reactions are desirable to complete encapsulation of foci, tuberculin may be used advantageously. Those who follow out a satisfactory treatment including tuberculin secure a larger percentage of favourable results with fewer relapses than those who omit tuberculin from their treatment. This fact should be inferred because of the specific power which resides in tuberculin when properly administered to stimulate fibrosis.

In its property of fortifying an already established immunity and utilizing the allergic response in the formation of fibrosis lies the main claim for the therapeutic value of tuberculin. This, however, is not its only property. When employed improperly it has the property of favouring caseation and necrosis in a tissue which is already prone to take on these changes. This is what many clinicians fear, but such fear is displaced by experience. It is now plain that reinfections caused by small numbers of tubercle bacilli, which occur at not too frequent intervals, increase immunity and favour healing by producing an encapsulating fibrosis; and that reinfections caused by large numbers of tubercle bacilli, particularly if repeated at too frequent intervals, depress immunity and favour the spread of the disease by producing necrosis and softening of caseous foci. This is identical with the effects of small and large doses of tuberculin. Small doses of tuberculin may produce no reaction at all in the tuberculous focus; larger ones may cause only a slight hyperaemia about the periphery of the tubercle with the exudation of a few cells and the formation of fibrous tissue. Still larger ones produce more pronounced effects; and very large ones cause marked exudation with softening of the caseating foci.

There is nothing in this to frighten a trained physician. It simply emphasizes the necessity of learning how to use tuberculin so as to obtain the healing effects and avoid the destructive action.[10] I can speak from an experience extending over thirty years, including the treatment of several thousand patients, and wish to emphasize the fact that it is possible to obtain the fibrosis-producing effects and avoid those which cause necrosis. Rarely do we get a temperature reaction of more than 100° during the entire treatment of a patient extending over a period of months; yet we secure the beneficial focal effects necessary to promote healing.

The danger from reactions is very much exaggerated in the minds of many. Only such reactions as greatly depress the patient's immunity are harmful. The patient's reinfections frequently give temperatures up to 100° or 101°, lasting four or five days, with no ill effect following; and, as Aschoff says, the larger reinfections, if they are overcome by the patient, leave him with his immunity very much increased. Our attitude toward tuberculin reaction should be governed by what we know of the reactions caused by natural reinfection. Since the patient can build up a high state of immunity by repeated reinfections, so small as not to disturb the temperature curve, or cause other constitutional effects, and can also by such slight reactions build up a fibrous wall sufficiently strong to encapsulate his bacilli, we should emulate this natural method in our administration of tuberculin. This does not mean that we should have fear of an occasional focal reaction accompanied by temperature elevation. On the contrary, healing is often hastened by such an allergic response. We should, however, always endeavour to avoid severe repeated reactions.

Rise of temperature and constitutional symptoms are not necessary to focal reaction. Sometimes general response may be suspected by feelings of increased nervousness following the injection; but this must be definite, for patients are prone to blame the injections for every uncomfortable feeling that comes to them. Increased cough and expectoration is usually present short of temperature elevation, and by this the clinician may know that he is securing desired focal effects. Focal reactions are desirable, but severe focal reactions are unnecessary and usually to be avoided.

REFERENCES.

1 Koch, R.: Verhandlungen des Internationalen Medizinischen Kongress, Berlin, 1890. *Deut. med. Woch.*, 1890, No. 46a.
2 Koch, R.: *Deut. med. Woch.*, 1891, No. 3.
3 Pottenger, F. M.: Forty-third Annual Meeting of Tri-States Medical Association of Mississippi, Arkansas, and Tennessee—Memphis, February 1st to 3rd, 1927. Forty-fourth Annual Meeting of American Climatological and Clinical Association, White Sulphur Springs, West Virginia, May 19th to 21st, 1927.
4 Uhthoff: *Berl. klin. Woch.*, 1891, No. 7.
5 Aschoff, Ludwig: *Lectures on Pathology*, New York, 1924, pp. 52-53.
6 Stewart, Fred W., and Rhoads, C. P.: *Amer. Journ. of Pathology*, vol. ii, p. 571.
7 Baldwin, E. R., Petroff, S. A., and Gardner, L. S.: *Tuberculosis, Bacteriology, Pathology and Laboratory Diagnosis.* Philadelphia, 1927, p. 117.
8 Aschoff: Loc. cit., p. 48.
9 Aschoff: Loc. cit., p. 58.
10 Pottenger, F. M.: The Allergic Reaction, the Basis of Tuberculin Therapy. Annual Meeting of American Therapeutic Society, Washington, D.C., May 14th to 15th, 1927.

CARBOLIC SATURATION IN THE TREATMENT OF CERTAIN TYPES OF STREPTOCOCCAL BLOOD INFECTION.*

BY

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THE object of this communication is to draw attention to the clinical possibility of introducing carbolic acid into the body in such large amounts that the growth of streptococci in the circulating fluids is thereby arrested, and the patient cured. In my hands this method has proved efficacious in streptococcal infections after scarlet fever, and those accompanying rheumatic fever, as well as other types of infection, and my experience leads me to hope that on a more extended trial it will be found that by its use the treatment of endocarditis, which is liable to accompany rheumatic fever, may be brought completely under control and robbed of all its power of mischief.

The treatment was first brought to my knowledge by the late Dr. William Carter of Liverpool about 1895, and consists in the administration of sodium sulphocarbolate in sufficiently large doses to give rise to the first symptoms of carbolic poisoning—namely, enfeeblement of muscular tone, general malaise, or a marked lowering of the temperature. The dose necessary to produce this degree of carbolic saturation is 20 to 25 grains every two hours, in the case of an adult, or an adolescent of 16 or more, and in the case of a child of 8 to 10 years a dose of 8 to 10 grains every two hours.

As this method of treatment, if it is to be both efficacious and safe, must be carried out with certain precautions, I give the following notes in the hope that it may be given

* Communication to the Association of Physicians meeting held at Newcastle-on-Tyne, May, 1926

a more general trial, for I have confidence that if it be freely used in rheumatic and other forms of streptococcal endocarditis it will very greatly lessen the incidence of valvular disease in these cases.

The following brief notes of cases illustrate the method.

Case 1.—In a case of obstinate chorea in a girl of 8 years, 10 grains of sodium sulphocarbolate were given every two hours. In a few days complete muscular relaxation suddenly supervened. Treatment was stopped. Rapid and complete recovery ensued.

Case 2.—A child, aged 6, with acute otitis media and threatened involvement of the mastoid. Ten grains of sulphocarbolate, given every two hours except at midnight, and 2 and 4 a.m. After sixteen doses complete muscular relaxation supervened. The drug was stopped. There was complete cessation of inflammation of membrane and the external meatus, but pneumococcal inflammation of the tympanum persisted, and two days later incision of the membrane brought about rapid recovery.

Case 3.—A girl, aged 8, suffering from endocarditis after scarlet fever, and symptoms of streptococcal blood infection, was given 7½ grains of the drug every two hours. In a fortnight she became pallid and listless and the drug was stopped, although the temperature had not come down to normal. After a week's interval it was recommenced in 6-grain doses every two hours, but in a few days the temperature became subnormal. The drug was stopped. The child made a perfect recovery, and had no recurrence.

Case 4.—A girl, aged about 14, was admitted to hospital with rheumatic swelling of most joints, a temperature of 103°, pericarditis, a recent valvular murmur, pneumonic consolidation in one lung, and choreic movements. Sodium sulphocarbolate, 20 grains every two hours, and the usual raw meat feeding were commenced immediately. Rapid improvement set in, and she made a good recovery.

Case 5.—A boy, aged 14, was recovering from pneumonia following double mastoid operation after measles, when acute rheumatism supervened. After a few days acute carditis set in, with alarming heart weakness, pulse of 148, no sounds at the bend of the elbow when using the sphygmomanometer, followed in twenty-four hours by the appearance of a mitral systolic murmur. Sodium sulphocarbolate in 20-grain doses every two hours was commenced within twenty-four hours of the onset of the cardiac symptoms. A rapid and continuous improvement resulted. The murmur disappeared in a fortnight and the heart became normal. The patient was kept recumbent for six months as a precaution, and suffered no cardiac disability afterwards.

Summary.

1. By the administration of sodium sulphocarbolate in sufficiently large doses it is possible to arrest certain types of streptococcal blood infection.

2. To attain this end the drug must be given in such a manner as to cause the early symptoms of carbolic acid poisoning.

3. The symptoms which must be watched for are: (1) feebleness and want of tone of the voluntary muscles. In children this may come on so suddenly as to amount to the complete muscular relaxation characteristic of accidental carbolic poisoning. (2) General malaise and debility. (3) A subnormal temperature. In some cases the temperature curve is not only subnormal, but also remarkably free from the usual variations.

4. When any of the above symptoms of carbolic poisoning appear it may be taken for granted that the streptococcal blood infection has been arrested by the action of the carbolic; clinical experience with this mode of treatment demonstrates this as a fact.

5. As soon as any symptoms of carbolic poisoning appear the sodium sulphocarbolate should be stopped immediately. In many cases there is no need for a repetition of the treatment, and convalescence is uninterrupted from this point onwards.

6. Sometimes it is necessary to repeat the treatment after an interval of some weeks or months.

7. The voluntary muscles seem to be more susceptible to the action of carbolic than the heart muscles, and there appears to be no risk to the patient so long as the drug is stopped as soon as muscular weakness begins to develop.

8. Carboluria has never been observed by me, even in cases where an adolescent continues to take 20 grains of sodium sulphocarbolate every two hours for three months or more. Nevertheless it is advisable to watch the urine regularly for this symptom.

9. For an adult 20 (or even 25) grains should be given every two hours in an urgent case, such as one where streptococcal endocarditis is threatening. In a less urgent case three out of twelve doses may be omitted—namely, those at midnight, and 2 a.m. and 4 a.m. In an adolescent of from 14 to 16 years of age the dose should be 15 to 20 grains every two hours. In a child of from 6 to 10 years of age 8 to 10 grains can be given every two hours.

10. An important point is that the treatment should begin with a maximal dose. If at the commencement of treatment a small dose only be given the body appears to become accustomed to the drug, and it may be difficult subsequently to get the desired effect on increasing the dose.

11. In some cases of chronic streptococcal infection, where, presumably, there are streptococci in situations where the circulating fluids of the body do not easily reach them, the treatment may have to be persevered with for two or three months.

12. In patients with chronic non-pyrexial streptococcal infection who are taking 20 grains of sodium sulphocarbolate every two hours without any symptoms of carbolic saturation a gradual improvement in general condition and a somewhat rapid gain in weight may be noticeable.

13. With this treatment it is always well to combine raw meat feeding, 4 to 6 ounces being given daily. If worked through a brass wire sieve of one-sixteenth of an inch mesh with a porcelain pestle it is easily treated and flavoured so that the patient is unaware that raw beef is being eaten.

14. In my hands this treatment has proved wonderfully reliable, but it is possible that in certain states of the body the sulphocarbolate may not be decomposed in amounts adequate to bring about the cure of the streptococcal infection.

15. Whenever there is good reason to suspect the presence of vegetations upon the endocardium or the cardiac valves, the cessation of the inflammation which this treatment can almost invariably bring about is almost certain to result in exfoliation of the vegetations, and death from cerebral embolism. In such cases the cure of the streptococcal infection causes the death of the patient more speedily than would be the case if the disease were allowed to run its natural course, and it should not, therefore, be attempted. In these cases, even though the dose of the sulphocarbolate be so small that the temperature does not begin to approach normal till after three months of treatment, death from cerebral embolism is nevertheless extremely liable to occur just when success seems about to crown the physician's efforts.

TWO CASES OF HYDATID DISEASE OF THE PLEURA.

BY

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IN view of the comparative rarity of this condition and the absence of the disease, so far as my knowledge goes, from this locality, the two cases here recorded, occurring simultaneously in the Royal Infirmary, Preston, may prove of interest.

CASE I.

A married woman, aged 47, admitted on March 26th, 1927, was born in Preston and has lived there all her life with the exception of four years (1889-93) spent in Bolton. She has worked as a spinner in one mill in Preston since 1893. No dog has ever been kept in her house, nor has she had any association with dogs except that she was bitten by one three or four years ago. Her skin has always been of a dark colour. She stated that she had been quite well until November, 1926, when she slipped down some steps and hurt her back and right side. The following day she had pain in the right side and epigastrium and began to vomit. The vomit consisted of food, and later clear fluid, and relieved the pain. This sequence of pain and vomiting continued off and on down to admission, and most of this time she was confined to bed. She was considered to be suffering from gall stones.

For about a week before admission she had pain in the region of the right scapular angle and in the right side of the chest; cough without much expectoration developed, and vomiting continued.

On admission the temperature was 99° F., pulse 138, respirations 52. The skin was dark brown. The usual signs of the presence of fluid in the right side of the chest were found, with well marked tubular breathing over the upper part of the right lung and in the axilla. Greyish-brown pus, rather thin in consistence, was aspirated. It contained a preponderance of streptococci with staphylococci and pneumococci. Hooklets were not looked for and not found.

I operated on the day after admission (March 27th). A portion of the eighth rib on the right side was resected and there was

a free flow of pus containing a very large number of cysts of various sizes and portions of the thickened wall of a large cyst. The original opening was then enlarged and the pleural cavity washed out with saline and more echinococcal material removed. A large rubber drainage tube was sutured in. Numerous hooklets were discovered on examination of the pus and fluid contents of the cysts.

Recovery was, on the whole, uneventful. During the earlier weeks the cavity was washed out daily with eusol. On one occasion hydrogen peroxide was substituted, and alarmed the patient by bubbling out of her mouth. The pulse remained rather rapid and the temperature rose occasionally to 100° F. She was discharged on June 3rd, having been well healed for over a week; she had good movement of the right lung, and breath sounds were heard moderately well. Her general condition was excellent. After the first few days she was moved to a balcony, where she remained until discharge.

CASE II.

A married woman, aged 45, admitted April 12th, 1927, had lived in Preston all her life. From 1892 to 1916 she worked as a ring-spinner in various mills. During the last six years she had kept a dog which she got as a puppy from a local farm. She had always been somewhat dark skinned. She stated that she had had "smothering bouts," accompanied by sweating, at the age of 39, when the menopause occurred, but these symptoms had not been present for two or three years. She said that she was treated for right-sided pleurisy twelve months ago, but was not needled. She had had some pain in the side and back ever since.

About the middle of March, 1927, she had an attack of influenza with cough and pains "all over." A week before admission the pain settled in the right shoulder and she coughed up some jelly-like material streaked with blood. When admitted the usual signs of a right-sided empyema were present. Aspiration of the chest revealed pus of the same nature as in Case i, and the same organisms were present. She refused operation and went home on April 21st, but was readmitted for operation on April 26th.

Mr. McKerrow operated on April 27th, and an identical condition to that in Case i was discovered. In this case the chest cavity was not washed out, but was drained in the same way as the other. Hooklets were again found. After operation discharge was free, but later diminished. Shortly after operation she had some muco-haemorrhagic expectoration which also contained hooklets. Down to the seventeenth day the temperature rose occasionally; 100.6° F. was the highest recorded, but it has remained normal since. She is still being treated in hospital.

In both these cases *x*-ray photographs of chest and abdomen were obtained about a month ago, as well as a screen examination. In both cases fixation of the right vault of the diaphragm and shadowing of the right lung, particularly the base, were seen. No further evidence of cysts was found.

A blood examination of both cases at this time revealed no eosinophilia. A point of special interest is the parallelism in sex, age, occupation, site, and character of the disease. The two women have never met, live in different parts of the town, and obtain their food supplies from entirely different sources.

I am indebted to Mr. K. M. Duncan, F.R.C.S., and Mr. W. A. H. McKerrow, F.R.C.S., for permission to publish these cases.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

GENERALIZED PNEUMOCOCCAL INFECTION: RAPID DEATH.

DR. POSTON'S description (June 18th, p. 1098) of a case of acute lobar pneumonia in which the whole course of illness lasted only nine and a half hours, is interesting, and prompts me to record the following case as illustrating the great rapidity of a pneumococcal infection.

On March 29th last I was called in consultation with Dr. B. to see a patient—a man of middle age—suffering from lobar pneumonia. The crisis had been somewhat delayed, but otherwise there was nothing of particular interest about the case. His wife had undertaken the entire nursing of her husband, and I urged her to employ a professional nurse, as I was afraid that the heavy work entailed might have a deleterious effect on her health. When I made this suggestion she laughed, and said that nothing was likely to have a bad effect on her health, as she had never had a day's illness in her life, and was known to her friends to be almost proof against disease. She agreed, however, that in the interests of her husband professional assistance with the nursing should be obtained, and the nurse was duly installed within a short time of my visit.

A few days later the doctor again requested me to go to the same address, when I was not a little surprised to find that this time the patient was the wife. Her illness had commenced less than twenty-four hours before my visit. On examination definite signs of lobar pneumonia were found at both lung bases, the right knee-joint was swollen and contained fluid, and the left knee was painful and tender. The right knee-joint was aspirated, and was found to contain pus which, when bacteriologically examined, proved to be pneumococcal. Within twenty-four hours I was again called to see the patient, but she had died a few minutes before my arrival. Considerable effusion had taken place into both knee-joints, and peritonitis had also developed.

The whole course of this patient's illness had lasted less than forty-eight hours, during which time both lungs had become affected, both knee-joints, and the peritoneal cavity.

This case illustrates, I think, the rapidity with which the pneumococcus may work, and with such virulence that it can break down all resistance in the body, even in an apparently previously healthy individual. The course of the disease in the case recorded was so short that full investigation was not possible, but it seems unlikely that the strain of pneumococcus was Type I; possibly it was Type III, which, although the cause of a smaller percentage of cases, nevertheless gives rise to a high mortality on account of its extreme virulence.

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DEATH FROM QUININE POISONING.

THE following case is unusual, and should, I think, be put on record. A pale, stout lady, 50 years of age, came to the seaside for a restful holiday. Just before her death she stated that in order to ensure sleep she had taken a large number of tablets of quinine. When first seen she was in a state of collapse, with bad colour and very feeble pulse. It is estimated that she took forty-eight 5 grain tablets of quinine bisulphate, presumably continuously during the night. She rallied a little with restoratives, but died while the stomach was being washed out.

The *post-mortem* examination revealed no signs of organic disease. The coroner gave a verdict of death due to heart failure, the result of taking a large quantity of quinine. Two hundred and forty grains is certainly a large dose to be taken in a few hours, but I can find no reference to a death from quinine poisoning in my standard works on toxicology.

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PREGNANCY ALTERNATING IN THE HORNS OF A UTERUS DIDELPHYS.

CONGENITAL defects of the uterus to the extent of independent development and complete absence of fusion of the Müllerian ducts, with the subsequent occurrence of pregnancy, have frequently been recorded. In many instances, however, atresia in some part of the cervix or vagina, of one or other side, only allows of the development of a fertilized ovum in a single horn, so that when evidence is found, at operation, of pregnancies occurring at intervals in each horn of a double uterus such a case becomes worthy of description.

A married woman, aged 27, was brought to the Swansea General Hospital by Dr. D. B. Harrington on December 27th, 1926. She had reached term in her second pregnancy, having been delivered four years previously by Caesarean section of a stillborn male child weighing 10½ lb. Operation had been withheld in this instance until labour had been obstructed for a period of four days.

On abdominal examination the fundus was found to be at the level of the xiphoid process and directed towards the right side. Foetal heart sounds were audible. A mass was palpable above the pubis to the left of the middle line. The vulva was normal in appearance, but vaginal examination disclosed the presence of two distinct passages, each containing a normal cervix and external os, separated from one another by a lax median septum. Both cervices were softened and the external os upon the right side admitted one finger.

Labour was allowed to continue, and eventually the membranes ruptured, but the head did not descend. On December 28th, as the patient was extremely anxious for a living child, an abdominal Caesarean section was decided upon. Laparotomy revealed a condition of complete uterus didelphys with a well marked fold of peritoneum, or vesico-rectal ligament as it is termed, occupying the deep fissure between the horns.

The left horn, which was of a size corresponding to a three months' pregnancy, exhibited, on its anterior surface, the scar of a previous Caesarean section. From the right horn a living female child, weighing 6½ lb., was delivered. Permission to sterilize the

patient could not be obtained, although the dangers of future pregnancies had been explained.

Recovery was uneventful, and when last seen, on April 7th, 1927, the mother and her child were both very well.

An additional point of interest in this case is that the uterine abnormality produced an obstructed labour in both pregnancies, whereas, according to most authorities, a double uterus does not usually interfere with spontaneous delivery.

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Reports of Societies.

SOCIETY OF BRITISH NEUROLOGICAL SURGEONS.

THE foundation of the Society of British Neurological Surgeons was reported in our issue of January 8th (p. 64). The second meeting was held in Manchester on Friday and Saturday, June 24th and 25th, under the presidency of Sir CHARLES BALLANCE. The newly elected associate members were admitted by the president. The meeting proved very successful, for in addition to a full attendance of members and associates, Professor Harvey Cushing was present and took part in the discussions. Professor Shaw Dunn, Dr. Royle of Sydney, N.S.W., and Dr. Arthur Hall of Sheffield read papers by special invitation. On the first morning Mr. JEFFERSON operated upon a case of neuralgia, dividing the sensory root of the Gasserian ganglion, and then exhibited a number of cases as a basis of general discussion. In the afternoon Professor SHAW DUNN made some observations on a series of intracranial aneurysms, pointing out how commonly they were the cause of fatal intradural (subarachnoid) haemorrhage. But he insisted that unless they were carefully searched for and the clot faithfully removed they were very apt to be overlooked. Mr. TROTTER followed with some reflections on the surgical treatment of some of the larger intracranial aneurysms, which were not uncommon lesions and which are now being recognized clinically rather more often than was the case formerly. He indicated the treatment which he believed to be the most rational and successful. Mr. PERCY SARGENT read a paper on two cases of angioma of the pia arachnoid cerebri, giving an account of the clinical findings in his cases, the operative appearances, and the after-histories. He discussed the difficult question of correct pathological grouping, and Professor SHAW DUNN described the histology of a case he had met with. Dr. ROYLE gave an address, based on a series of cinematograph films, on the effects of sympathetic ramisectomy in cases of spastic paralysis. In many of these a striking improvement was apparent, but it was suggested that similar results could be obtained by older established orthopaedic measures. Dr. Royle thought that much more rapid improvement took place after ramisectomy, and declared that unless vascular changes were noted in the limb after operation it could not be held that a proper sympathectomy had been performed.

On the morning of Saturday, June 25th, after Dr. STEWART had described briefly his work on the innervation of the teeth, Dr. ARTHUR HALL gave an extremely lucid exposition of the reflexes controlling posture. He defined clearly the meaning of Magnus's nomenclature, and illustrated several of the tonic reflexes by means of cinematograph films, models, and diagrams. Mr. CECIL CALVERT of Belfast gave a description of two cases of cerebral tumour, attempting to account for the localized pain of which the patients complained by reference to the innervation of the dura. Mr. MORRIS (Manchester) showed the anatomy of the Haertel method of injecting the Gasserian ganglion, and of a slight but important alteration in the site and traject of puncture. He believed that the injection material tended to run back into the root of the ganglion, and gave permanently satisfactory results. In discussion members mentioned the serious results which sometimes followed these injections, but Mr. Morris stated that he had not seen them, though transient palsy of the abducens sometimes occurred. Keratitis was rarely severe.

Reviews.

A NEW TEXTBOOK OF OBSTETRICS.

EXCEPT that the book has been written to set forth the views held and the methods practised by the present members of the staff of Queen Charlotte's Hospital, and is in no sense intended as an encyclopaedia of obstetrics, the preface to *The Queen Charlotte's Practice of Obstetrics*[1] gives no further guide to the reviewer as to its differentia and special claims for notice. We understand, however, that its appearance coincides with the appeal of the hospital for £250,000, and is to be regarded as an expression of that phase of the hospital's work directed towards better obstetrical education and research.

Its title suggests a book devoted almost wholly to the clinical practice of midwifery—of the type, for instance, of Herman's *Difficult Labour*—but a glance at its contents is sufficient to show that it is a comprehensive textbook of obstetrics on usual lines, and that the writers have had constantly in view the medical student with his examinations before him. There are chapters on anatomy, development, the physiology and mechanisms of labour, and plenty of theory, for a choice of six is offered in explanation of the toxic agent in eclampsia. Many conditions not ordinarily treated in a maternity hospital—abortion, molar pregnancy, ectopic gestation, and such-like—also receive full consideration.

Although its six authors serve the one hospital, the list on the title-page shows that five different hospitals are in addition served by them, and it would speak little for their independence of thought if these six had no reservations from the practice of Queen Charlotte's Hospital as herein laid down. The member of the staff who has made himself responsible for the general direction and arrangement is, however, to be congratulated on making its teaching appear so uniform that it is difficult to realize so many have had a share in its production. Like all composite works, it lacks the character and individuality of single authorship, but as a whole it gives a sane and well balanced view of modern obstetrics, is eminently practical, and forms a useful addition to the many textbooks on the subject from which student or practitioner can make a choice. An exceedingly valuable feature is the occasional reference to the statistics and experience of the hospital in regard to the frequency of complications and the results of treatment. A still wider use of the Queen Charlotte's figures would have served more than anything else to impress the stamp of the hospital on this book.

Obstetrical diagnosis is well and fully taught throughout, and our criticism would rather be that some methods of doubtful value are included. In the diagnosis of an occipito-posterior position the point is made that the fingers can be sunk more deeply into the abdominal wall between the pubes and the umbilicus than in anterior positions,

"because in the posterior position of the occiput the anterior shoulder of the child is lying well away from the middle line, and, consequently, does not produce any resistance to the pressure of the examining fingers."

Does this and the diagram that illustrates it signify anything more than that the small parts of the foetus are to the front? Again, in describing the differential diagnosis between the foetal head and the breech in the fundus uteri the following cryptic statements occur:

"Should there be difficulty in deciding that this is the foetal head, one hand should be laid upon it for a minute or two, when it will be noticed that the head has no independent movement. In the case of a vertex presentation, the buttocks always swing slightly together with movements of the limbs."

Treatment in that bugbear of midwifery practice, the unreduced occipito-posterior position, is discussed on sound and practical lines. Early intervention is deprecated, but the cases in which the anterior fontanelle alone can be felt are recognized as those in which intervention is almost

[1] *The Queen Charlotte's Practice of Obstetrics.* By the following Members of the Staff of the Hospital: J. Bright Banister, M.D., F.R.C.S., Aleck W. Bourne, M.B., F.R.C.S., Trevor B. Davies, M.D., F.R.C.S., L. Carnac Rivett, M.C., F.R.C.S., L. G. Phillips, M.S., F.R.C.S., C. S. Lane-Roberts, M.S., F.R.C.S. London: J. and A. Churchill. 1927. (Med. 8vo, pp. viii + 629; 270 figures, 4 plates. 18s. net.)

certain to be required. If manual rotation fails, rotation by the forceps is rejected as dangerous, and instead of it antero-posterior application of the blades is advocated to draw the head into the cavity; the blades are then removed, the head rotated manually, and the forceps re-applied when the occiput is anterior. In the discussion of complications of delivery by the breech, it is surprising to find no description of the management of the breech with extended legs impacted low down in the pelvis.

As might be expected from the wide experience of the hospital, the chapter on contracted pelvis is one of the best in the book. The authors have no hesitation in advising against Caesarean section in neglected cases in which the forceps has been applied and failed. "In general, perforation is the method of delivery which appeals to us. The child is already affected by the pressure, and the risk to the mother is infinitely less."

The section on obstetrical operations gives clear and practical instructions, and the final miscellaneous section contains several interesting chapters, including two on maternal and on foetal mortality.

One innovation in the practice of Queen Charlotte's Hospital that we trust will not be followed generally is the substitution of the terms "primigravida" and "multigravida" for the time-honoured "primipara" and "multipara." It may be the expression of the shifting of the centre of gravity in midwifery from the care of labour to that of pregnancy or merely an attempt at greater exactitude. Primigravida is correct for the woman in her first pregnancy, but primipara has always been taken to connote the woman in her first labour. Multigravida is a needless atrocity and suggests a multiple gravidity—anything from twins to a litter.

The book is well and profusely illustrated (including four coloured plates) and well printed and turned out, but is marred by some obscure passages and much slovenly proofreading. "Forcep-delivery" occurs sufficiently often to raise a doubt as to whether it is a term used at Queen Charlotte's or an overlooked printer's error.

We wish every success both to the Queen Charlotte's *Practice of Obstetrics*, and to the appeal of the hospital for funds for extending and carrying on its great work.

MUIR AND RITCHIE'S "BACTERIOLOGY."

WE welcome the appearance of the eighth edition of MUIR and RITCHIE'S well known and deservedly popular *Manual of Bacteriology*.[2] In actual size the book has not been greatly increased, but Professor Muir and his collaborators, Professors BROWNING and MACKIE, have made large alterations and additions in nearly every chapter in order to incorporate the "growth in every branch of the subject, associated with the development of improved technique." In the earlier chapters dealing with the bacterial diseases only slight rearrangements in the subjects have been made, but considerable alterations have been effected in the later chapters dealing with Rickettsia infections, filter-passing viruses, protozoal diseases, and pathogenic fungi. A number of new illustrations have been added.

The high standard reached in the previous editions (the seventh was published in 1918) has been more than maintained, and the authors are to be congratulated on the success with which they have condensed the widely scattered and growing literature of medical bacteriology. The new edition may be fairly regarded as indispensable to every teacher and student.

APPLIED PHYSIOLOGY.

DR. SAMSON WRIGHT'S book on *Applied Physiology*[3] meets a real need, for in the past there have been few books on these lines written by British teachers, though DR. ROBERT HUTCHISON published one with the same title in 1908, and Professor R. J. S. McDowall has just brought out a similar work. A very important factor in medical education is to correlate the preclinical subjects with clinical work, and for this purpose revision classes in physiology in its practical application are of great value to men working in the wards and out-patient departments. Too often there is a gulf between the sharply cut decisions of the physiological laboratory and the numerous problems of the sick-room which of necessity are often left but imperfectly solved. Dr. Samson Wright has given such courses at the Middlesex Hospital and therefore from experience knows what the student requires, and so has provided the information concisely and clearly. It is worth noting that he has been accustomed to illustrate physiological problems by demonstrations on patients showing disorders, for example, of the endocrine and nervous systems.

This well planned book is thoroughly up to date, as is shown by the inclusion of Dr. Harington's work on thyroxine, the information about vitamin E, Professor Barcroft's work on the spleen, and Sir Thomas Lewis's observations on liberation of a histamine-like body from the epidermal cells as the result of mechanical irritation. The sections on cardiac physiology will be particularly valuable to students beginning clinical work, and indeed to many men qualified at no recent date who at present are perhaps naturally rather daunted by the seeming complex revelations of the new cardiology. Each section begins with a summary of the anatomical essentials and at the end gives references to monographs and papers which are easy of access. The amount of information contained is surprising, and the manner in which it is imparted so attractive that there can be no doubt of the success of Dr. Wright's admirable book.

ACIDOSIS IN DIABETES.

IN the form of a supplement to *Acta Medica Scandinavica* Dr. MARTIN ODIN of the Clinic at Lund has published a lengthy and imposing monograph on acid production in diabetes mellitus.[4] The author's own studies occupy the greater part of the volume, but are prefaced by a useful historical survey of the biochemistry of the "acetone bodies," their relation to diet, to metabolism, and, in particular, to diabetic coma. There follows a discussion of those principles upon which the acid-base equilibrium of the body may be defined, the methods by which it may be investigated, and the conditions under which departures from the normal are found to occur. Thus is the reader introduced to the main material of the book—the author's investigations of the acid-base equilibrium of the body in a large number of cases of diabetes. The protocols occupy about one-half of the five hundred odd pages, and the detailed analysis of these observations is only a little more economical of space. It will be evident that this is a serious and formidable work. The chief observations which have been made are the carbon dioxide capacity, concentration of sugar and "acetone bodies" of the blood and the titratable acidity and "acetone bodies" of the urine.

It is not possible to summarize the general nature of the results. They are too diffuse. It is enough to say that the observations have been compared in mild and in severe diabetes, before, during, and after recovery from coma, and in relation to the effects of starvation, varied diets, and muscular work.

These studies were projected seven years ago in order, in particular, to compare the familiar undernutrition regime of Allen and the alternative method, pursued by Petrén of the Lund Clinic, in which a diet more adequate in calories was permitted, these being supplied chiefly as fat. The revolution effected in the treatment of diabetes by the discovery of insulin has had the inevitable result of relegating to a position of chiefly academic interest this laborious enterprise of Dr. Odin, which was conceived as a direct contribution to therapy. We will not, however, agree that the labour has been useless, for the pathologist and clinician are still willing to learn more of diabetic acidosis, and the literature of metabolism here gains a bulky addition to its basic data.

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[2] *Manual of Bacteriology*. By Robert Muir, M.A., M.D., Sc.D., F.R.S., and the late James Ritchie, M.A., M.D. Eighth edition, revised, with the co-operation of Carl H. Browning, M.D., D.P.H., and Thomas J. Mackie, M.D., D.P.H. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Cr. 8vo, pp. xxiv + 821; 211 figures, 6 plates. 16s. net.)

[3] *Applied Physiology*. By Samson Wright, M.D., M.R.C.P. With an introduction by Professor Swale Vincent, M.D., LL.D., D.Sc., F.R.S.Ed. and Canada. Oxford Medical Publications. London: Milford. Oxford University Press. 1926. (Demy 8vo, pp. xx + 418; 37 figures. 15s. net.)

[4] *Studien über die Saureproduktion bei Diabetes Mellitus*. Von Martin Odin. *Acta Medica Scandinavica*, Supplementum XVIII. Stockholm: P. A. Norstedt and Söner. 1927. (6 × 9½, pp. x + 573.)

AN ATTEMPT AT A HISTORY OF PHARMACY.

Four Thousand Years of Pharmacy[5] is the high-sounding title of Mr. LAWALL'S discursive work. The author, who is professor of theory and practice of pharmacy and dean of the Philadelphia College of Pharmacy and Science, evidently takes his office and his vocation very seriously. Beginning with the Ebers Papyrus, he takes his readers down the ages, and in a chronological table of thirty-two pages, beginning with 7000 B.C., he records all manner of events more or less connected with pharmacy. This list of dates and events would be of great use to the general student, if not to the pharmacist as such, were it more trustworthy. Such statements as the following, however, throw doubt upon the value of the whole collection: "A.D. 500—Merlin, the necromancer of the Arthurian legends." "1215-1222—Tamerlane conquers the East." (Tamerlane died in 1405.)

We know of no authority for the statement that Isaac Newton "started as a pharmacist's assistant," or that Mayerne was expelled from France for prescribing calomel. But perhaps we are taking matters too seriously, for there is a vein of humour in this chronology which shows itself in the statement that Isaak Walton "makes fish stories popular," and a pleasant reference to Boccaccio as "the humorist whose stories are a bit *risqué*" [*sic*].

No book on the history of pharmacy can be complete without consideration of the alchemists, some of whom were doubtless humbugs, but others, such as John Dee, almost certainly dupes, either of their own fancies or of cunning knaves like Dee's familiar Kelly. We are reminded that the Angelic Doctor, Thomas Aquinas, is included among alchemists, and are told in this book that Dr. J. Campbell Brown has stigmatized Aquinas as a fictitious character; what this means we do not profess to say, but possibly by some uncommon use of the term it refers to him in his capacity of alchemist. The fact of the existence of St. Thomas Aquinas the philosopher, and the history of his life and writings, are better authenticated than many other historical facts of the thirteenth century, and the statement is generally accepted that he, like his teacher Albertus Magnus, dabbled in alchemy, probably without being deluded by false hopes.

The true believer in the philosopher's stone or the experimentalist who sought to transmute base metals into gold was often a tragic figure who, like John Dee, wasted his energies and his substance in the pursuit of a will-o'-the-wisp which always eluded his grasp, just as he thought that boundless wealth and power were within his reach. Dee's son Arthur, the friend of Sir Thomas Browne, professed to have actually seen "projection" when he was in Bohemia with his father, but he wisely refrained from any attempt to repeat it, and found that the practice of medicine in Russia and Norwich was more productive of gold than the philosopher's stone or the alchemist's crucible.

The code of ethics of the American Pharmaceutical Association sets a worthy standard of conduct before its members in their relations with the State, their "patrons," the general public, and the members of the medical profession. Mr. LaWall tells us that the London Pharmacopoeia of 1618 was the first to be officially adopted by any nation. Sir Theodore Turquet de Mayerne, who, as President of the Royal College of Physicians, was its official sponsor, was probably, as an innovator and chemist, better qualified for such a duty than most of the physicians of his time. The suggestion of Judge Parry, in a recent work, that he supplied, or even suggested, a poison which caused the death of Sir Thomas Overbury, is groundless. At that time there were no tests for poisons, and little if any knowledge of the *post-mortem* appearances, and the cause of Overbury's death must remain ever doubtful.

There is much in this book that is of interest, and when it has been purged of its inaccuracies it should be a useful book of reference, and even as it is it may serve to while away the time of a country pharmacist while he waits behind his counter for the next customer—we beg pardon, patron.

The illustrations are interesting, but they are badly reproduced, and lack technical merit.

[5] *Four Thousand Years of Pharmacy.* By Charles H. LaWall, Ph.M., Phar.D., Sc.D., F.R.S.A. London: J. B. Lippincott Company. 1927. (5½ × 8¼, pp. v + 665; 64 plates. 25s. net.)

NOTES ON BOOKS.

A SECOND edition of Colonel and Mrs. HASSARD'S book on *Practical Nursing for Male Nurses in the Royal Army Medical Corps and other Forces*[6] will be welcomed by those for whom it was first published some years ago, when Colonel Hassard was on the active list of the corps. The authors have brought their subject well up to date, for they have added to it a chapter on radiant heat, electricity, and massage, by Miss Staveley Shinkwin, late head masseuse at the Military Hospital in Fort Pitt, Chatham, as well as a series of notes on insulin treatment, by Miss Millicent Ashdown, an examiner in practical nursing. The volume covers a wide field of subjects, from bed-making and washing of patients, the various nursing appliances and nursing requirements, and surgical and operation room duties, to mental nursing and the cleaning of ward utensils. The instructions and descriptions are extremely clear and well arranged. There is no attempt to load the nursing orderly with medical details, but the principles of accuracy, punctuality, observation, tact, and neatness in all nursing work are emphasized. The book is one which can be thoroughly recommended to all engaged in nursing services.

Travellers who might feel perplexed at the route followed by Mr. G. K. Chesterton in the couplet:

> The night we went to Birmingham
> By way of Beachy Head,

would find their difficulties smoothed out by a perusal of the "*Easifind*" *Railway Time-Table*.[7] This ingenious production is said to have cost its author, Lieut.-Colonel W. MANSFIELD, many hours' daily labour for five and a half years. As the result a would-be tourist from South Shields to Lowestoft need only consult the numbers on a map, or a tabular index, and he will at once find a reference giving him the through route between these two places. The whole thing is based on a system of figures and signs which is clearly explained at the beginning of the time-table. The reader, it is said, can refer at a glance to any one of 12,000 through communications without wandering from one page to another in the effort to link up communicating lines. The mental strain of the railway traveller should be greatly alleviated by Colonel Mansfield's efforts.

[6] *Practical Nursing for Male Nurses in the R.A.M.C. and other Forces.* By Colonel E. M. Hassard, A.M.S.(ret.), and A. R. Hassard. Second edition. London: John Bale, Sons and Danielsson, Ltd. 1927. (Cr. 8vo, pp. xvi + 407; illustrated. 4s. 6d. net.)

[7] *The "Easifind" Railway Time-Table.* By Lieut.-Colonel W. B. Mansfield. London: Rolls House Publishing Co., Ltd. 1927. (2s.)

NATIONAL ASSOCIATION FOR THE PREVENTION OF TUBERCULOSIS.

CONFERENCE IN LONDON.

THE National Association for the Prevention of Tuberculosis held its thirteenth annual conference in the Great Hall of the British Medical Association on June 30th and July 1st. As very little new work on tuberculosis has been done recently in this country, it was not to be expected that anything startling would be said on the topic, "Present lines of attack on tuberculosis, their relative value," and the speeches were marked by noteworthy restraint.

The Minister of Health's Address.

The conference was opened by the Minister of Health, Mr. Neville Chamberlain, who emphasized the decline in mortality from tuberculosis by nearly two-thirds in half a century. It was difficult, he said, to state the causes of the decline. It might be that the process of slow acquirement of immunity was still continuing; but Mr. Chamberlain was inclined to lay stress on two other facts: first, the improvement in environmental and social conditions; secondly, the adoption of various methods for prevention and treatment. Social conditions had been improved by the building of 894,000 new houses, and it was hoped to institute further legislation to enable local authorities to improve conditions. Provision had been made for early detection, notification, and treatment of every case; but there was room for improvement in notification. The general practitioner was a noble animal, but he did not always notify as he should. But in addition to State efforts, Mr. Chamberlain thought that education and after-care were essential; and these were matters in which voluntary effort was of the utmost value. For these objects colonies, such as Papworth and Preston Hall, suggested excellent

methods; but colonies required careful organization, and they could only deal with a limited number of patients. Hence the need for voluntary care committees. Before Mr. Neville Chamberlain left the meeting a vote of thanks to him was moved by the chairman, Sir ARTHUR STANLEY.

Present Lines of Attack.

The subject of the conference was opened by Sir JOHN ROBERTSON, medical officer of health for Birmingham, who said that it was very difficult for anyone to say what influences had produced the reduction of tuberculosis mortality to one-third of what it was sixty years ago. The public, anxious to get rid of tuberculosis, was mystified by the multitude of counsels on the best method of procedure. It was, unfortunately, impossible to connect any one set of conditions with every case of tuberculosis. And as the long duration of the disease made it difficult to connect results with definite actions, the spectacular results of treatment obtained greater appreciation than the more important principle of prevention. Sir John Robertson then drew attention to the almost uniform decline in the mortality rate from 1856 to the present time. Neither the Public Health Act of 1875 nor the present antituberculosis campaign had influenced the rate of decline to any large extent. In rural districts the tuberculosis mortality rate was much lower than the rate for England and Wales, notwithstanding the fact that the rural labourer was better off than the townsman in two respects only—fresh air and light. In housing, food, labour, and ignorance he was worse off. The mortality both in England and in the United States was high amongst males between the ages of 20 and 45; but in females the highest rate was between 20 and 25, a difference in the sexes which called for explanation. Of the outstanding events which might have influenced the mortality in the last sixty years, Sir John Robertson selected three: compulsory general education, the discovery of the *Bacillus tuberculosis*, and the establishment of antituberculosis schemes. And he had no doubt that the most important of these was compulsory education. A good general intelligence was the greatest asset in the campaign against tuberculosis. In Birmingham the mortality in a poor and ignorant district was four times that in an area of intelligent artisans. The best means of preventing tuberculosis were adequate nutrition and abundance of fresh air. Koch's discovery had been valuable from the educational standpoint in the prevention of infection; and Calmette's work suggested the possibility of some measure of immunization. The tuberculosis dispensary and the sanatorium were useful for special education; but Sir John Robertson was convinced that the chief means of reduction in incidence and mortality had been, and remained, healthier living.

Dr. F. E. FREMANTLE, M.P., attributed the higher mortality in males after the age of 25 to the greater possibility of infection in workshops and to the greater strain involved in male labour. He advocated five-yearly medical examination for everyone as a means of detecting early cases.

Mr. PRICE of the Handsworth (Yorkshire) District Council, thought that tuberculosis was mainly an economic question, and was caused by lack of suitable nourishment in early life. The proper line of prevention was to improve the condition of the working classes, who should use their wages in an economic manner.

Dr. HART of Southall advocated prevention in preference to treatment; also early diagnosis and the raising of the standard of living.

Dr. PREST of the Ayrshire Sanatorium protested against the attitude so often adopted that cases of pulmonary tuberculosis were necessarily infectious. Apparently the man in London who was sent to a sanatorium became a marked man, whom nobody wanted to employ. This was the chief reason why doctors refrained from diagnosing tuberculosis. Notification should not be necessary for entrance to a sanatorium.

Dr. BOLTON TOMSON of Hastings called attention to the danger of migratory cases spreading infection through the lodging-houses at watering-places.

Mr. KITTS of Guernsey thought that the line of attack on the cow ought not to be neglected. Some years ago bovine tuberculosis was introduced into Guernsey by cattle returning from a show in England. Forthwith there was an increase in human tuberculosis. For the last three or four years bovine tuberculosis had been stamped out, there being only two doubtful reactions to tuberculin in 3,000 cattle tested annually; and the human mortality from the disease had sunk from 8.5 to 1.7.

Housing and Home Conditions.

In the afternoon of June 30th the subject for discussion at the conference was "Housing—home conditions." In the absence of Professor Kenwood through illness, his paper was read by Dr. HEWAT, who disclaimed responsibility for Professor Kenwood's opinions. Professor KENWOOD attributed the reduction in tuberculosis to the steady improvement in economic and sanitary conditions. All the *special* measures of recent years had done little to reduce its prevalence. It was not surprising that direct measures of limited scope, often indifferently administered, had had but scanty results. Professor Kenwood had no doubt that complete measures could be formulated for the prevention of tuberculosis; but they would be prohibitive in cost. More of the money now spent on special measures of direct attack should be spent upon preventive measures apart from the cure of the patients. He had always been impressed by two facts: the notifications mostly came too late, and it was impossible to secure such satisfactory home and living conditions as would prevent extension of the disease, especially to young children. When a member of a family had contracted the disease the young children should be the main concern. The boarding out of children from infected homes had not been adopted sufficiently in this country. Professor Kenwood thought that a large amount of excellent institutional work was wasted from lack of efficient after-care, and that suitably trained whole-time officials should be appointed under a detailed national scheme for this work. The menace of the advanced case in poor-class homes should be met by a limited amount of segregation, optional or compulsory.

Sir WILLIAM YOUNGER, chairman of the Dumfries and Galloway Sanatorium, thought that the work of the sanatorium in putting patients on the right road to recovery was undone by the bad housing conditions to which they returned. The beds of sanatoriums should not be blocked, yet to send children back to such homes was unjustifiable. He advocated the establishment of convalescent homes for children, where they could be treated until they were fit to stand up to the home conditions. He would like also to see disability pensions for adults unfit to be with their families, thus relieving economic difficulties for the wage-earner.

Mr. A. T. Pike, secretary of the Garden Cities and Town Planning Association, in the absence of Captain R. L. Reiss advocated the removal to the country not only of the people but also of their work. In his opinion there should be decentralization into new industrial towns on the lines upon which Letchworth was now developing.

Sir WILLIAM THOMPSON, registrar-general for the Irish Free State, described the fall of mortality from tuberculosis in Ireland, and the work of the Congested Districts Board.

Mr. CREWDSON of the Westmorland County Council explained the difficulties that arose in obtaining powers to order windows in which only one small pane was made to open to be made efficient for ventilation. He hoped that legislation would be promoted to enable local authorities to replace the windows, and to charge the cost gradually against the rent.

Dr. WOODCOCK of Leeds spoke of the many dusty trades, apart from those which cause silicosis, which had a bad effect on the lungs. He hoped that scientific men would ultimately find some system of producing immunity to tuberculosis. Artificial immunity *plus* protection from infection was the true solution of the problem.

Dr. GEORGE JACKSON of Plymouth spoke in favour of the Grancher system of boarding out, which was now being tried by the Plymouth After-Care Committee. It was much cheaper than sanatorium methods in the treatment of children.

Dr. FITZGERALD, assistant medical officer of health for Southport, agreed with Sir John Robertson on the value of the Education Act of 1870. In his opinion education and housing could not be separated.

Dr. MOORE, medical officer of health for Huddersfield, said that there were twenty-one statutes intended to settle housing, and we still had, and always would have, a housing problem. Housing was not so important as the character of the housed. "Following up" showed that the people who remained well after sanatorium treatment were those who took the trouble to lead a sensible life. He attacked the system of subsidies for housing; the fellow workmen of the housed really contributed to pay his rent. Unfair government was also unwise government. Dr. Moore noted the similarity of the curve in the fall of the price of wheat during last century with the curve in the fall of tuberculosis mortality.

Dr. J. H. COUTTS of the Ministry of Health suggested that housing was not the final solution of the tuberculosis problem. He pointed out that the drop in mortality after the war was hardly consistent with this solution, since the housing question at that time was very acute. The rise in mortality during the war was due to bad nutrition and to strain. With general sanitary improvement—a wide term which might include improved education of the people—mortality decreased. Dr. Coutts also remarked that new houses were not always occupied by the people for whom they were intended. The people from the replaced slums did not always go into the new houses. He advocated propaganda and education.

Dr. HEWAT, in summing up, said that the London County Council had no difficulty in getting defective windows made to open without bluffing the owners. The great difficulty in housing was that people could not afford to pay the increased rent. And the difficulty with the Grancher system was very often that parents would not let their children be boarded out.

Industrial Conditions.

On July 1st the conference discussed "Housing—industrial conditions." Professor E. L. Collis said that how and when infection occurred in tuberculosis was still uncertain. All that could be said was that the disease was endemic and ubiquitous among civilized nations, and that it represented a low physiological resistance. The fall in the mortality had been steady and unaffected by any efforts to accelerate the pace. Experience during the war showed that malnutrition was the factor ruling the mortality from the disease in early adult life; malnutrition meaning either a dietary or a capacity for food assimilation which was inadequate to the energy required. The fall in mortality after the war had in no wise been affected by housing conditions. It was coincident with a rise in the value of real wages. Unhygienic environment appeared to be far less important than malnutrition. There were three types of physiological resistance belonging to different periods of life. In infancy the disease carried off those who had inherited no resisting power. In early adult life those whose digestive powers were impaired or whose diet was inadequate succumbed. In middle age the victims were those for whom the wear and tear of early adult life had been heavy. And as industrial life terminated for females with marriage the difference in the mortality ages of the sexes could reasonably be ascribed to industrial conditions. The mortality from phthisis in males between 25 and 65 years of age in certain occupations had not followed the course shown in the general population, namely, of falling more rapidly than the mortality from all causes. In these occupations it could be shown that the influence which determined the phthisis mortality was the influence of infection. Control of an infectious disease, said Professor Collis, could only be acquired by controlling exposure to infection. The fall in phthisis mortality since 1860 had been most pronounced in infancy, when infection was the only factor at work; it was least pronounced in middle age, when infection was greatly aided by wear and tear. The best means of attack on the enemy was in control of infection. Tubercle carriers must be recognized like typhoid carriers; tuberculous persons must not be let loose upon the community as safe because no bacilli were found in their sputum. The infected must be eliminated from factories and placed in industrial colonies. And when the incidence of the disease had fallen sufficiently to allow of all remaining cases being treated in sanatoriums, strict segregation must be adopted.

Sir THOMAS OLIVER thought it difficult to separate housing and industrial conditions, since a man's occupation was largely reflected in the character of his home. Tuberculosis would never be exterminated until we had better dwellings for the people. Overcrowding was a prolific cause of the spread of tuberculous infection. In Northumberland and Durham overcrowding was particularly marked, probably because they were the oldest coal areas to have been worked, possibly, also, because the colliery houses were free, and the miners had little ambition to improve their dwellings. The overcrowding in these areas might also be due to habit, dating back to the conditions of the sixteenth century, when the standard of comfort was remarkably low. Moreover, districts occupied by miners and metal workers, and in which the men outnumbered the women, had high birth rates. In such areas the work was too hard for women, who consequently married and had large families. Conditions in many of these areas were made worse by taking in single men as lodgers, and, where day and night shifts were employed, by practically continuous occupation of the beds. In remote lead mines in Durham the owners in former times frequently erected barracks near the mine-head, in which the beds were so closely adjacent as barely to leave standing-room. Amongst these miners there was a much higher death rate from phthisis than amongst the neighbouring dalesmen engaged in agricultural pursuits. In areas where much female labour was employed children failed to get parental supervision, and their nutrition was not always well regulated. Sir Thomas Oliver concluded by emphasizing the necessity in dusty trades for removing the dust, and of water-spraying during the process of drilling rock. He pointed out that in the Rand silicosis, which was originally of purely dust origin, had become more associated with tuberculosis. He thought the time had come for definite action instead of mere discussion.

The medical officer of health for Jersey stated that the island was, like Guernsey, free from bovine tuberculosis. In Jersey they feared especially the pretubercular visitor, for whom, also, the moist climate was none too good. Reference was made to investigations on the presence of monilia colonies in tubercle-free sputum.

Dr. CLARK TROTTER, medical officer of health for Islington, thought that the health of the factory worker was a matter for the medical officer of health, and not only for the factory surgeon and the general practitioner. He found no difficulty in initiating health propaganda, especially when the ear of the welfare superintendent had been got. He complained that in many of the researches of the Medical Research Council and the Industrial Fatigue Research Board the matter ended with the report and nothing was done.

Mr. Stock of Stockton, a trade union organizer, thought that there was as much need for dissemination of knowledge amongst employers as amongst employees. He described a new dusty process of dry drilling, which he expected would result in an increase of phthisis amongst the workers.

Mrs. FOWLER of Staffordshire, using as a text the phthisis mortality amongst barmen, worked in a temperance address. It appeared that barmaids drew beer, drew customers, and died at 35, and that this had some connexion with the expenditure of £1,000,000 a day on drink.

On the evening of June 30th the Marchioness of Titchfield attended the reception and annual meeting of the National Association for the Prevention of Tuberculosis, received the guests, and gave an address. Exhibits for use on caravan tours were on view. The afternoon of July 1st and the morning of July 2nd were spent in excursions to the British Legion Village at Preston Hall, housing schemes at Hammersmith, the Burrow Hill Colony at Frimley, and Welwyn and Letchworth garden cities.

THE PATHOLOGY OF INSANITY.

THE following is an abridged report of the Maudsley Lecture, delivered to a meeting of the Royal Medico-Psychological Association on May 19th, in the Great Hall of the British Medical Association House, Tavistock Square, London, by Dr. Edwin Goodall, C.B.E., F.R.C.P., medical superintendent of the Cardiff City Mental Hospital, and lecturer on mental disorders at the Welsh National School of Medicine. The full title is "The Eighth Maudsley Lecture: Dealing with some of the Work done to elucidate the Pathology of Disease falling to be considered under the Rubric 'Insanity.'" The full text is appearing in the July number of the *Journal of Mental Science*.

MORBID HISTOLOGY.

It has not been given to many of those whom I have the privilege of addressing to watch the course of the scientific investigation of the pathology of the psychoses for a period of thirty-four years. It will be some twenty-five years ago that, in general, the attention of workers in the domain of the pathology of insanity began to slacken in respect of that aspect of the work which, till then, had mainly interested them—namely, the morbid anatomy of the brain. Attention began then to be directed to the problem of pathological causation, and search to be made for the pathological factors which expressed themselves in the morbid histological conditions found in the brain cortex. If we note now the interests of young graduates studying for a diploma in psychological medicine, we shall, I think, find that they are not in the direction of histopathology, but rather in that of, for example, the function of the endocrines, of the autonomic nervous system, possibly of biochemistry. My experience of published work from foreign clinics in psychiatry is that the same drift from histology is noticeable. Nevertheless, it would be unphilosophical to take the view that research in morbid histology of the brain is not worth while. A perusal of the literature shows the work in progress in the field of the normal histology of the nervous system. And improvements in technique—in the main due to German, Spanish, and Italian workers (how comes it that this branch is so little cultivated by the British?)—will add to our knowledge. Thus research in morbid histology will be constantly stimulated.

The application of the method of photo-micrography in ultra-violet light to the study of the nervous system appears to date from about 1911. A series of studies in the human nervous system is reported by Weimann (1925). This method may be of much significance in the study of the histology and histopathology of the nervous system. The difficulties and sources of error associated with it will, however, prevent it from becoming a method of general use.

The origin and significance of the plasma cells, found in dementia paralytica, encephalitis lethargica, and some other conditions, the functions of the different types of neuroglia cells, and of the microglia—these, for example, are matters of interest. A masterly contribution by Cajal upon the neuroglia in general paralysis shows that the microglia was first fully demonstrated by means of the technique perfected by Del Rio Hortega. And this work dates back only some seven or eight years. Hortega's description, based on histological and experimental evidence, pictures the microglia cells as amoeboid bodies, of varying figure, according as they require to adapt themselves to the local characteristics of the framework of nerve cell, blood vessel, and neuroglia in which they have to function. The conception of function presented is that of a permeating tissue, subserving depuration in health, phagocytosis and scavenging in disease—these latter purposes being achieved by movement of the microglial elements to the site of disease. This was a conception formerly applied to the astrocytes, but never, I believe, on sufficient evidence.

If we except dementia paralytica and senile and arterio-sclerotic dementias, the brain changes found in cases of mental disease are uncharacteristic. As regards the so-called "dementia praecox" group, and especially the cases exhibiting catatonia and catalepsy, it cannot be admitted that morbid histological states described by individual workers as characteristic have been generally accepted. It is notorious that great difficulty surrounds the proper investigation of these cases of malignant dementia of adolescence ("dementia praecox"), since they succumb comparatively late in the course of the disease, and from intercurrent maladies. The histopathological conditions present at the base of the brain (basal ganglia, third ventricle environment, and mesencephalon) would be of great interest. Schuster made a contribution in 1926 upon the pathohistology of two cases of dementia praecox which showed during life striking psychomotor disturbances. Muscle rigor was present to the end of life; severe ganglion cell degeneration and neuronophagy were found in the vegetative centres and basal ganglia and nuclei which are brought into association with the psychomotor disturbances.

Corroborative evidence of infantilism, of Mott's observation on arrest of spermatogenesis and regressive atrophy of the testes, and on the decay of nuclei of the cortical nerve cells, is required. Witte, giving careful regard to the various sources of error (due to secondary disturbances), considers that in about 60 per cent. of cases of schizophrenia (controlled by other cases) the testes are abnormally small, and very often there is defect or absence of spermatogenesis. These conditions he regards as the expression of inborn deficiency of the testes. In his experience the diminution of the interstitial cells, which Mott described, is rarely found. The views of Mott are in general corroborated by Münzer in a particularly valuable contribution on an individual case. If it is hereafter established that the testis (and the ovary) presents morbid histological conditions in some kinds of adolescent dementia, it will be reasonable to expect research with a view to ascertaining whether any reactive substance can be discovered in the blood serum.

Though it is very difficult to obtain pathological material from typical cases of the psychoses sufficiently free from the complicating effect of intercurrent disease to render it of value, I nevertheless think that we have not taken, and are not taking, sufficient advantage of our opportunities to study the morbid histology of the glands of internal secretion in cases of adolescent dementia—a subject on which we are very badly informed. The examination of as many as possible of these glands in one suitable case is more likely to be informative than that of an individual gland in many cases.

At this point a few words as regards remissions in dementia praecox. Since these occur, transforming the clinical picture in many cases dramatically, producing such a degree of amelioration that the patient is fit for discharge, mentally well for the time being, and even able to take up a subordinate occupation, it becomes a duty, and an interesting one, to seek out Nature's method of bringing about the change. Many of us who had charge of mental cases amongst troops during the war must have been struck by what appeared to be recoveries in cases which, in ordinary civil experience, would have been classed as dementia praecox. These cases could not be followed up, and may have been instances, some of wrong diagnosis, others of dementia praecox in remission. These remissions in dementia praecox are doubtless less frequent and less complete than those noted in dementia paralytica. In neither case do we know to what they are due. While they can be imitated—probably improved upon—by the malarial treatment in dementia paralytica, I have not been able to find evidence that any success has attended this or the like empirical means when applied to the case of dementia praecox. The phenomenon of remission in both the diseases mentioned is a fascinating field of work which may be commended to the juniors in our branch. I would suggest that the clearing up of mental and physical symptoms and signs sometimes seen in dementia praecox is difficult to reconcile with a doctrine of premature decay of neurones and endocrinal tissues, and justifies the working hypothesis that, in order to procure a remission, an exciting cause must be put out of action.

We must, I consider, look to the neuro-psychiatric clinic in all countries to deal with the problem of the pathogenesis of the dementia of adolescence—in my view, far the most serious and the most difficult of the problems of psychiatry presented to it. Such a clinic, because of its

superior staffing and research facilities, and because these cases will be seen in earlier stages than at the present mental hospitals, will be in a far better position to conduct this investigation than are the latter.

TOXAEMIA.

In the presidential address which I had the honour to deliver before this society in 1923, I summarized the work which, to the best of my knowledge, had been done in the domain of bacteriology in the acute and recent psychoses. I am old enough to remember the introduction of bacteriological methods into mental hospital laboratories at approximately the date when histological research had reached its apogee. In this direction, also, interest has waned, so that for some fifteen years little or nothing has been published. My summary of bacteriological investigations, including personal investigations in association with colleagues, dealt with the examination of the blood, urine, faeces, and cerebro-spinal fluid by bacteriological methods. The results have not thrown light on the essential pathological causation of the psychoses. But improvement in mental disorders has been recorded as following upon removal of sources of infection in the mucous tracts. As regards our knowledge of the intestinal tract as a source of infection, I consider that the position is still very unsatisfactory. For a few years prior to 1914 my colleagues and I at the Cardiff Mental Hospital laboratory had carried out much tedious work on the bacteriology of the faeces in states of acute melancholia and mania. An extensive survey in 1914 of all the foreign literature of importance enabled me to state that extremely little work had been done in this direction. Knowing as we do the striking effect upon the mental state of dealing drastically with the extreme constipation present in numbers of newly admitted patients, and appreciating the evidence of radiograms after a barium meal in these cases, it is clear that some toxic agency or agencies are at work, as to the nature of which, in my opinion, we are wholly ignorant. In the work on the bacteriology of faeces in acute mental disorders just alluded to we were unable to confirm the statement that had been made by the Italian observer Pardo, that the putrefactive anaerobes of the intestine were increased. According to quite recent work of Kaemmerer and others in Munich, porphyrin has significance as a criterion of intestinal putrefaction. In its formation the obligatory anaerobes are the chief factors. We therefore carried out tests with the technique of Kaemmerer in twelve cases of acute and recent mental disorder, but in none could porphyrin be found spectroscopically.

The psychoses due to exogenous toxic or infectious processes constitute a welcome link with general medicine, and seem particularly worthy of study, as tending to afford an insight into the pathogenesis of like mental disorders arising without obvious cause. Such conditions as typhoid, malaria, influenza, pneumonia can produce all forms of insanity, or very good imitations of such, except a systematized delusional state.

Bonhoeffer, in his well known study of the symptomatic psychoses, deals with the pseudo-general paralysis which occurs in connexion with some of the specific fevers.

One of the most interesting statements that I have come across is by Loewe. He found that the dried insoluble adialysate of urine from the catatonic type of dementia praecox, from dementia paralytica (after seizures), and from delirium tremens was highly toxic. From cases of epilepsy this is, in addition, capable of producing seizures very like epileptic ones, injected intravenously. Similar adialysate from the urine of normal persons was not toxic. As regards toxicity of fluids (serum, urine) of epileptics or general paralytics, it is the case that statements in a positive sense have been made as to fluids withdrawn shortly after seizures, but findings in the pre-paroxysmal state would be of more importance.

In keeping with this evidence of lack of toxicity of the blood and cerebro-spinal fluid of cases of the psychoses is the result of a large number of experiments carried out by my colleagues and myself, which showed that there is no specific antisubstance (precipitin, haemolysin, haemagglutinin) formed when serum, red blood corpuscles and stroma of such are injected into rabbits intravenously, even from cases recently received of acute mental disorder. Cerebro-spinal fluid from cases of general paralysis failed to produce any antibody in the serum of rabbits.

METABOLISM: SOME OBSERVATIONS.

About 1913 Allers of the Munich Psychiatric Clinic published a critical survey of the information then available in respect of metabolism in the insanities. The subject had been worked at then for some nine years, but most of the work gave evidence of lack of training and inadequacy of method. A notable exception was the now classical work of Folin and Shaffer on metabolism, with special reference to mental disorders. This exhaustive study led to the following conclusions: A strong suggestion that general paralysis is a disease which may be associated at one stage or another with some metabolism disorder. Among other classes of the insane pronounced variations (abnormalities of metabolism) from normal standard values are also very numerous, but no one metabolism peculiarity could be identified with any particular form of mental disorder. The necessity for devising accurate analytical methods before this work could proceed was dwelt upon by Folin. His work was carried out between 1900 and 1904, and since then chemists have been engaged in elaborating accurate methods for the examination of the chief constituents of urine, of blood plasma or serum, and of cerebro-spinal fluid; in regard to the last two fluids, methods have had to be adapted to the small quantities usually available, or the minute quantity of the constituents to be examined.

For some time prior to 1923 my colleague Dr. Walker carried out painstaking research upon the basal metabolism in mental disorder, especially dementia praecox. In this condition there is evidence of lowering of function, such as a subnormal temperature, cyanosed and cold extremities, damp hands, bradycardia—symptoms referable to a disturbance in function of the vegetative nervous system. Of these cases 50 per cent. had a basal metabolism of less than 10 per cent.—the range being from 12 per cent. to 47 per cent.—with 20 per cent. as the average. The non-dementia praecox types had either a normal basal metabolism or one slightly in excess.

Diathermy has been used by us as a means of treatment for many years. It raises the pulse rate and the body temperature, increases the elimination of urea- and ammonia-nitrogen, and—as shown by Walker—increases the basal metabolic rate 10 to 15 per cent. It is, therefore, indicated in the class of case above referred to. Now that artificial sunlight treatment is being introduced in psychopathic institutions, its effect upon basal metabolism in suitable cases should be recorded. Indeed, I consider it incumbent on those who have the installation for this treatment to furnish scientific evidence for or against its utility in psychopathic cases—evidence based upon tests of function, blood examination, etc. It will be time enough for mental hospitals in general to make provision when such evidence is forthcoming.

BIOCHEMICAL WORK.

The application of chemical methods to the problems of disease by trained chemists may be called a recent event, since it took place, apart from isolated pioneer efforts, well after the student days of the older members of the profession. As regards the psychoses, this application may be called a thing of yesterday. I may be doing the German and Italian psychiatric clinics an injustice, but I cannot recall any outstanding communication on the subject in question prior to 1904. I mention that date as it was then that Otto Folin, whose contributions to biochemical work have been so numerous and weighty, published, with Shaffer, the metabolism studies (already referred to) which were carried out in the chemical laboratory (established in 1900) of the McLean Hospital for the Insane, Waverley, Mass. In 1901 a chemist, S. A. Mann, was appointed to the London County Council's Asylums Service. Reference should be made to the work of Koch and Mann, which was a chemical study of the brain in healthy and diseased conditions, with especial reference to dementia praecox, and that of Pighini, upon organic metabolism in dementia praecox, published in the *Archives of Neurology and Psychiatry* (edited by Mott) in 1909. It is not surprising that hitherto biochemistry has been concerned, as far as

our branch of work goes, with comparatively elementary research; but, with the growth of knowledge in physical chemistry, more difficult fields must be cultivated.

With the progress of scientific medicine, especially aided by the contributions of biochemistry, it is to be expected that an ever-increasing demand will be made of us in the matter of examination of recent cases of disease. Already, if we are to do what is right by cases of so-called mental disease, the number of medical and research workers on the strength at our mental hospitals is pitifully inadequate. When asked the time-worn question, "How many patients should there be to one medical officer at a mental hospital?" (I speak now of the public institutions), I reply, "Ask, rather, how many workers, and what sort of workers, should there be to concentrate on each newly received case judged recoverable." My view is that the time is already upon us when it is for practical purposes very difficult for any public mental hospital to collect, maintain, and retain the team of workers which thorough physical investigation of a case of disease demands. Very rare exceptions may be allowed, as where the mental hospital is very near a university centre, with medical school and general hospital available, and a most exceptional degree of collaboration has been established. The necessary combination of workers will more easily be found in future psychiatric clinics—an integral portion of the general hospital.

Nova et Vetera.

RICHARD BRIGHT.

His Early Travels.

THE publication of the first volume of Bright's *Reports of Medical Cases* containing the announcement of the discovery of Bright's disease is being celebrated this week (Friday, July 8th) at Guy's Hospital, where Professor Thayer will give an address in the afternoon, and by the Royal College of Physicians of London, who will give a conversazione in the evening. While still a student at Edinburgh Bright accompanied Sir George Stuart Mackenzie and (Sir) Henry Holland on a visit to Iceland, which lasted two months. Mackenzie gave an account of the expedition in a volume published in Edinburgh in 1811, and to it Bright contributed chapters on botany and zoology. On his return he spent two years in London, attending the united school of Guy's and St. Thomas's, and studying geology. In 1812 he returned to Edinburgh, where he continued to give part of his time to geology and natural history. He took the M.D. degree in September, 1812, with an essay on contagious erysipelas. He began practice in London shortly afterwards, but in 1814 he went abroad again, visiting the medical schools of Berlin and Vienna, and making a tour in Hungary. After his return to England, and before he finally settled down in practice in London, he published, in 1818, a book entitled "Travels from Vienna through lower Hungary; with some remarks on the state of Vienna during the Congress, in the year 1814": it contains 642 large pages (8 in. by 10 in.), an appendix of ninety-two pages, two large maps, ten large plates, and twelve vignettes. It is known to very few medical men, and during the last hundred years has probably been extremely seldom read. Yet it is an admirable book, and contains a very large amount of information. It demonstrates clearly Bright's abilities and remarkable industry as an accurate observer and collector of facts, before these abilities were revealed by his medical work; and it shows his extensive knowledge of other subjects besides medicine. Best of all, it reveals something of Bright's character and views of life, and this is now its chief value. No one can read the book without concluding that Bright was a man of warm heart and religious feeling.

Bright arrived in Vienna during 1814, the time when the great congress was being held there. He gives a graphic account of life and society in Vienna at that period, and describes the various entertainments, dances, and receptions given by the Emperor and others for the members of the congress. He tells us of the monarchs, princes, and distinguished people he saw at various amusements, on the Prater and elsewhere; and he records the words of a wit: "Le Congrès danse, mais il n'avance pas." His description of Vienna and of the General Hospital in 1814 will be of much interest to all who have studied in that city.

After leaving Vienna Bright travelled through lower Hungary—a country then extremely seldom visited by Englishmen—and his book gives an interesting account of Hungary a hundred years ago. With characteristic thoroughness he describes the towns and villages, the scenery, the conditions of life, the relations of nobles and peasants, agriculture, the agricultural schemes and schools of the nobles, the work in the mining districts, the army, the religions, the various races and their peculiarities of dress, etc. Of mining and agriculture he gives much information. The Hungarian gypsies appear to have interested him greatly, and in the appendix he gives a vocabulary of fourteen pages of words used by English, Spanish, and Hungarian gypsies.

His description of Budapest and the illustration of Buda and the Danube will be of much interest to those who know the modern city. He speaks highly of the University and medical school, where most lectures were then given in Latin. In Hungary scarcely one-third of the people were Hungarians, and owing to the mixture of races Latin was then much used as a common medium of conversation. Business was often conducted in Latin, and this practice continued long after Bright's time. Often in the villages German was not spoken at the inns and elsewhere, and Bright was frequently obliged to carry on conversation in Latin.

His account of a visit to Léva reveals to us something of his character. On arriving at the town he found a funeral leaving for the burial ground, and he tells us he at once joined the procession, since it afforded him "an opportunity of attending a ceremony which no one ought to neglect in a foreign country." He remained in the burial ground after the rest of the mourners had departed, and describes in moving language the affecting scenes he beheld at various graves, the loneliness of the spot with the Carpathian mountains in the distance, and the stillness, interrupted only by the lamentations of widows and children kneeling at the graves of their departed relatives. With sympathy he remarks: "He must have been cold indeed who could witness the scene without emotion. . . . These humble peasants of Hungary have, through the native promptings of their hearts, so blended the memory of their departed friends with feelings of devotion" that other nations "may respect and follow their example. . . . We may civilize and refine away our feelings till the simple dictates of nature are completely yielded up."

In impressive language Bright then gives his views on the duty of remembering friends who are dead. He considers "We are truly no more pardonable in attempting to forget a friend who is dead than we should be in forgetting one that is absent." He then adds: "If, putting aside all unintelligible motives, there is one which can be felt and explained, more pure than others, leading us to rejoice in our future prospects, it is the idea and hope of meeting again the friends from whom we have been separated by death." He refers to his previous experience of the respect shown to the dead at the burial grounds in Berlin, and tells us of his visit to the mausoleum at Charlottenburg, now so famous, but then only recently erected by King Frederick William III of Prussia in memory of his Queen Louise, who had died a few years previously and who was so deeply beloved.

Those who know a little of the history of Hungary and its wars with the Turks will read with interest Bright's brief account of his visit to the famous old fortress and town of Szigetvár, which Count Nicolas Zrinii long defended with 2,500 men against 164,000 Turks, and where he was killed in 1566.

At the Hungarian frontiers Bright was questioned regarding contraband merchandise; and he tells us he excited "the admiration of the officers" when they learned that he "neither smoked nor took snuff—a phenomenon" which he thinks he may safely affirm had "very seldom come within their observation."

R. T. WILLIAMSON.

The Centenary
OF
UNIVERSITY COLLEGE, LONDON.

ADDRESS BY THE RIGHT HON. H. A. L. FISHER.

DURING the celebration of the centenary of University College last week a centenary oration was delivered on Thursday, June 30th, by the Rt. Hon. H. A. L. FISHER, LL.D., F.R.S., Warden of New College, Oxford, and formerly President of the Board of Education. The meeting opened with a commemoration in which the audience filling the great hall joined solemnly in praising "famous men and our fathers that begat us." The names of certain of the founders of the college, and some of the more famous professors, fellows, and benefactors, were recited the professors including the name of Ernest Starling, and the fellows that of Victor Horsley.

THE NEWER UNIVERSITIES.

Mr. Fisher began by remarking that he was an Oxford man, and that the invitation to an Oxford man to deliver a centenary oration at University College was an indication of the change which had come over the educational landscape during the last hundred years. In its inception University College owed nothing to the ancient foundations of Oxford and Cambridge. It stood to them in the relation, not of a child, but of a rebel. The founders of University College proved that, despite the dazzling prestige of the older universities, new universities could be established. At first it seemed likely that the new university would be associated with the theology of dissent, but that danger was averted, and the idea of religious tests was dropped. The conception of university education as the privilege of all who were able to profit by it, though long familiar in Scotland, had been obscured in England by the growth during the sixteenth, seventeenth, and eighteenth centuries of an aristocratic tradition with its home on the Isis and the Cam. National, and indeed cosmopolitan, in the Middle Ages, the ancient seats of learning had become, a hundred years ago, limited in their usefulness. A man's idea of institutions was apt to be governed by the models which he saw before his eyes, and if the only universities known to him were situated amid sparkling streets or pleasant groves and gardens, and frequented only by the sons of the well-to-do, he was inclined to think that such was the necessary environment of a university, and such the social position of its students. The idea that a university might be erected in "the gaunt wastes of Gower Street" and for the sons of poor parents, many of whom might be Jews or dissenters, must have come as a shock to the mind of the early nineteenth century.

From the beginning also University College attempted to provide for the newer studies. What was perhaps the first chemical laboratory in a university in this country was opened at that college in 1828. When one thought of the part played by the science of chemistry in modern life, and of the great contributions to the advancement of that science which had been made by chemists teaching in that place, notably by Sir William Ramsay, the discoverer of argon and neon and other atmospheric gases, one might well feel proud of that wise decision by the founders to provide for chemical studies. So, too, with other subjects of ever extending range and applicability. A "professorship in reinforced concrete" would have seemed strange indeed at one time; to-day it, or something like it, was accepted without remark. It was far from his purpose to decry that discipline in classics and mathematics which was the special glory of Oxford and Cambridge. But classics and mathematics alone would not have availed to found a new civic university. Such a university must touch life at many points, must offer instruction in many things, must afford opportunity for adequate training in medicine, in law, in sciences as applied to innumerable arts, in foreign languages for commerce and teaching, and so forth.

Mr. Fisher added that in spite of what he had said about Oxford and Cambridge he could not allow those universities to rest under a reproach no longer deserved. Even at the time when University College was being founded they were already shaking themselves free from torpor, and the process of reform continued, new studies were introduced, scholarships were thrown open to competition, many changes were carried out, there was a development in the intercollegiate lecture system, a growth in extramural work, the abolition of compulsory Greek, and the admission of women, at least to a limited extent! All these changes on the part of the older universities had robbed London of many of the differential advantages which formerly came to her in consequence of the religious and social exclusiveness of Oxford and Cambridge. The contrast between London and the ancient seats of learning was now much less noteworthy than formerly. What, then, were the specific advantages which London could confer upon its students? Mr. Fisher thought there was a sense in which the capital of a country was already a university. A college situated in the metropolis was, after a fashion of speech, in a university square. In order to study many subjects, to probe things to their foundations, to get at the originals, to study institutions at first hand, to obtain material of a sufficiently varied kind for research, it was necessary to come to London. A college situated in London had, over and above the duty of preparing undergraduates for degree examinations, a special responsibility in respect of research, and it was one of the glories of University College that it had contributed not to education only, but truly to the advancement of learning, and that its alumni had shown themselves alive to the advantages which London offered in so many fields for the prosecution of original inquiry.

The growth in the number of university students was a very significant fact. The number of full-time students in Great Britain was 41,600; the great increase of recent years appeared to be due to the impetus given to higher education, not in this country only, by the experience of the war. The university population of London had more than doubled itself in a period of ten years, and here, as elsewhere, the university was showing a marked tendency to revert to the cosmopolitan tradition of the Middle Ages in the hospitality which it extended to students from foreign countries and from the British Empire overseas. He had been impressed when at Geneva by discovering that the three most prominent statesmen of Finland, Esthonia, and Latvia had received a part of their education at the London School of Economics.

In conclusion, Mr. Fisher said that University College had always stood for tolerance, academic study, and collegiate life. On the subject of tolerance he made a few suggestive remarks. One of them was that it was better to seek analogies than contrasts, and another, that the life of man was altogether too short to be consumed in getting on his fellows' nerves. As for academic study, he caused some laughter by asking the students whether they pursued academic studies or academic studies pursued them. But he said that the student who had once breathed the liberal air of a university acquired a certain immunity against that dread condition which was sometimes described as occupational disease of the mind. As years advanced the immunity weakened, but the spirit once touched with a sense of the large horizons of life was proof against the narrowing process. It was by width of mind rather than by academic knowledge as such that one could test the value of an academic career. As for collegiate life, he expressed the hope that the recent acquisition of the Bloomsbury site might help towards a solution of the problem of the social life of London undergraduates. He described Hart House, a great foundation for the students of the University of Toronto, affording them every social and recreational facility, and he wondered whether there was not in the vast area of the British Empire someone who would give to the students of London the magnificent advantages which the private liberality of the Massey family, the benefactors of Hart House, had provided for the students of the Canadian university.

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CUSHING ON ACROMEGALY.

THE reader who has completed his fascinated perusal of Dr. Harvey Cushing's address on acromegaly will not be slow to reflect that he has had set out before him for his entertainment and instruction the most finished pronouncement which has yet been given us. Within a relatively very short period one of the strangest maladies to which man is heir has come to be understood in a remarkably complete manner, and when we look back over the forty years which have elapsed since the title "acromegaly" was given to a peculiar and very slowly progressive disease, we may well render thanks to those who have caused a concrete shape to emerge from shadows. In 1886 Pierre Marie, then director of the laboratory attached to the Salpêtrière, published a brief essay on two cases of "Acromegaly: an unusual non-congenital hypertrophy of the head and upper and lower extremities." These two cases had been observed by Marie in Charcot's clinic, and to these two personal cases he added five (one of gigantism) which had been reported under various titles by other writers. Both of the patients whose story formed the basis of Marie's memoir were women, and cessation of menstruation was the inaugural step in the unfolding of the curious picture which was to follow and to impress itself on an acute observer. When they attended the Salpêtrière the first patient had been subject to the disease for thirteen years, the second for over twenty years. The latter had been known as "la petite," and had worn boots with high heels to increase her height, but she soon had to increase the length of her dresses. At the same time her hands and feet began to enlarge, and she suffered from intense thirst, drinking four or five pints of water at a time. The other patient had begged tea of her friends to satisfy her inordinate thirst. This woman came to seek advice for violent neuralgic pains, and it was her hands, as she raised them to demonstrate the site of the pain, which riveted Marie's attention.

It may be remarked, in parenthesis, that some of the symptoms noted in the early cases were not truly pituitary in origin. It is reported that in one patient the acuity of smell seemed remarkable, for he noticed odours not perceptible to other people. These, no doubt, were "uncinate fits," with which Hughlings Jackson familiarized us, and were probably due to compression of the inner sides of the temporal lobes by an upwardly projecting tumour. Similarly the thirst and polyuria are believed by some to be due to injury to the superadjacent hypothalamus.

The second case subsequently came to necropsy, and Marie found a large pituitary tumour eroding the sella turcica and compressing the optic nerves and chiasma. Dr. Souza-Leite, who, five years later, published an expanded account of Marie's cases, now numbering eight, and more (including an admirable case of Minkowski's) from the already rapidly accumulating literature, specifically states that the enlargement of the pituitary did not appear to be a neoplastic process, but a simple hypertrophy. "Is there," he asks, "degeneration of the cell elements of this organ or of its vessels, and what is its true nature?" Souza-Leite remarks that there had been up to date (1890) seven necropsies, and in all an increase of the pituitary body had been found, but neither he nor his master at first felt justified in connecting this causally with the bodily condition. And when Marie did venture so far, he expressed the belief that pituitary degeneration (hypofunction) was the essential. Tamburini in 1894 held the opinion that there was pituitary overaction, and in 1901 Benda demonstrated hyperplasia of the chromophil elements, a histological picture which has been so frequently confirmed in acromegalic cases that it is now accepted as the essential pathological lesion.

Such is the early history of acromegaly, and on this foundation others have built until our information has enriched us almost to the point of understanding the condition. There are still certain deficiencies, and one aspect of the problem, the possibility of effecting recession of the acromegalic structural features by removal of the adenomatous overgrowth, has been bravely tackled by Dr. Harvey Cushing in the present issue of this JOURNAL. So far the evidence available on this subject has been meagre and conflicting. The general attitude has been that it was wiser not to operate for glandular "toxaemia," but to wait for what Dr. Cushing long ago very aptly labelled "neighbourhood symptoms" (compression of the optic nerves, etc.). The cases which he relates now will stimulate others to intervene more often for the relief of hyperpituitarism, the somatic effects of which are often as keen a source of grief to the sufferers as the local compressions are sources of pain and disablement. It is true that our opportunities are likely to be limited, for the severer forms of acromegaly are not common. Nor, for the matter of that, are very gross enlargements of the thyroid gland. It is likely that milder changes are very common, and no one who walks about the streets week after week with his eyes open can fail to recognize in a number of his fellow men some of the features of acromegaly.

On the reverse side we must not allow ourselves to forget that the commonest form of pituitary tumour (the chromophobe adenoma) is not associated with acromegaly or gigantism at all.* This is a point which cannot be too strongly insisted upon, for if the fact is overlooked cases may be allowed to slip by unrecognized. Taking all three forms—the chromo-(eosino-)phil tumour of acromegaly, the chromophil tumour of hypopituitarism, and the Rathke pouch epithelial tumour and adamantinoma—they constitute a very substantial proportion of the sum of intracranial tumours. In Dr. Cushing's personal series of actually verified tumours, of 1,146 cases no fewer than 219 were pituitary adenomas, and another 55 were cranio-pharyngeal pouch cysts. This is a mass of material which would have staggered a previous generation, and if it represents, as it may, the figures of a clinic which may never be paralleled again, it at least serves to show that intracranial growths are not the rarities which many have believed them to be.

TREATMENT BY TUBERCULIN.

WE publish this week an article by Dr. F. M. Pottenger, of the Sanatorium for Diseases of the Lungs and Throat at Monrovia, California, on the rational basis for tuberculin therapy. He advances arguments for the more extensive use of tuberculin in the treatment of tuberculosis, in order to stimulate

* See an excellent paper by Dott and Bailey, *Brit. Journ. Surg.*, 1925, 13, 214.

allergic reaction in the tissue cells. Allergy was a term introduced by von Pirquet to describe the condition which led to reaction to tuberculin in tuberculous subjects, as compared with the absence of reaction in the non-tuberculous. In its application to tuberculous persons it designates the sensitized state of the tissue cells, which causes them to react differently from normal persons to reinfection or to injection with tuberculin. This acquired state of tissue is supposed to lead gradually to immunity in the presence of disease. It is the essential process by which immunity is created rather than a form of acquired immunity.

Dr. Pottenger holds that allergic reaction can only be stimulated regularly by reinoculations of living bacilli, either from foci already existing in the patient or exogenously, or by the administration of dead bacilli or bacillary protein. The effect of allergic stimulation varies with the dose. A small dose leads to a protective fibrosis which encapsules the foci of disease; a large dose may produce destructive necrosis and caseation. Improper dosage, according to the advocates of tuberculin therapy, is the cause of the fear felt by many physicians of employing the treatment. In speaking from experience extending over thirty years, and including the treatment of several thousands of patients, Dr. Pottenger asserts that it is possible, with adequate experience, to obtain the fibrosis-producing effects of tuberculin while avoiding those which cause necrosis.

Sir Robert Philip, in a letter published in the BRITISH MEDICAL JOURNAL of April 2nd (p. 641), deprecated the suggestion that tuberculin was a *terra incognita* which had hardly been explored, save by a handful of adventurers who recounted their experiences in not strictly measured language. He set out what had been done in Edinburgh, but we still believe that the majority of practitioners feel that they are without adequate guidance as to the cases in which, and the conditions under which, tuberculin is of value in diagnosis and treatment. The small committee appointed by the Medical Research Council to investigate the work of Dr. Camac Wilkinson in 1920 failed to express any convincing opinion as to the value or otherwise of the treatment. Yet tuberculosis is still an urgent question; so much so that the National Association for the Prevention of Tuberculosis has found it advisable to issue a fresh appeal for funds, and a large sum has already been collected.

In the belief that the work of this excellent institution will be furthered by more thorough knowledge of the pathological processes involved in tuberculosis, and of the effect of tuberculin on those processes, the questions to which we desire to direct attention are these: To what extent is tuberculin of value in the diagnosis and treatment of tuberculosis? Does it act in treatment by causing fibrosis through stimulation of allergic reaction? Does it give as satisfactory results as sanatorium treatment, if used in early cases without mixed infection? If so, what are the reasons for preferring to it the more expensive sanatorium treatment, which is costly and can only be given to a minority of cases? While holding no brief in this matter, we feel that practitioners are entitled to guidance, the more so since systematic treatment by tuberculin for ambulatory patients is advocated by medical men with experience of its value; tuberculin is used in many sanatoriums, and Sir Robert Philip tells us that it "is in daily use, in one or other fashion, in the several medical institutions which are linked up with the University Department" at Edinburgh.

A POST-GRADUATE SCHOOL FOR LONDON.

MR. CHAMBERLAIN, in what he said about a post-graduate medical school for London in the course of his statement on the Estimates last week, went much further than was expected; not only did he accept the conclusion that a post-graduate medical school should be established in London, but he made it clear that in his own mind it was practically settled that the school should be organized in connexion with the West London Hospital at Hammersmith. It is now over six years since the then Minister of Health (Dr. Christopher Addison) appointed a committee to investigate the needs of medical practitioners for further education in medicine in London. That committee, after hearing a number of witnesses, made two recommendations: the first was that such a school, attached to a hospital centrally situated in London, should be devoted solely to post-graduate medical education, and that it should be a school of the University; the second recommendation was that an institute or school of State medicine should be established in London, and that it should receive substantial financial assistance from the Treasury through the University Grants Committee. The second recommendation was quickly realized, and the School of Hygiene and Tropical Medicine was brought into being, with a Treasury guarantee for its maintenance. The Rockefeller Foundation made generous provision for the erection of a fine building, the skeleton of which is now rising in the university quarter of London. Nothing was done about the first—and, as some people think, more important—recommendation of the Athlone Committee. When, however, nearly two years ago, Mr. Chamberlain appointed a committee, of which he himself took the chair, "to draw up a practical scheme of post-graduate medical education centred in London," a confident hope arose that something would be done, for he has a way of getting things done.

Mr. Chamberlain now tells us that his Committee has framed a scheme to include buildings for a school, and the provision of a hospital containing about 400 beds. After making ample inquiry in London, first of all among the undergraduate hospitals, and afterwards among the other general hospitals, the committee came to the view, which, as has been said, Mr. Chamberlain accepted, that the West London Hospital at Hammersmith meets the case; it now has about 220 beds, but there is space to extend, so that the necessary lecture rooms and laboratories, and additional beds, could be provided. This scheme has been accepted in principle by the authorities of the West London Hospital. It seems to be practically that of the Athlone Committee, which has never yet received either the attention or the criticism it deserves. Mr. Chamberlain admits that to complete the full scheme will mean the expenditure of a large sum of money, but he believes that when the greatness of the conception and the vastness of the influence it would have in raising the standard of medical practice are realized the necessary funds for its erection will become available. Then there will be the cost of maintenance, about which Mr. Chamberlain was rather vague. The Athlone Committee guessed it at about £14,000 a year, of which about one-third would be required for pathology, for that department would have a whole-time professor, and whole-time lecturers to deal with branches of the subject other than that to which the head of the department would chiefly devote himself; the Athlone Committee considered that it should provide both for

the instruction of post-graduates in pathology and for some research work. The Committee contemplated also that special demonstrations should be given by specialists not connected with the hospital, who would receive suitable fees, as also would the teachers of special hospitals which the Committee advised should be associated with the central institution.

By the appointment in 1921 of a committee to investigate the subject, and another committee two years ago instructed speedily to draw up a practicable scheme, the Ministry of Health has recognized that it has a responsibility in regard to post-graduate medical education—primarily, perhaps, because it is the central administrative body of the national insurance system. The Board of Education is at least not unfriendly, for the University Grants Committee, in the work of which it is concerned, has declared that if the institution contemplated is made a school of the University it will become eligible for a grant. That it should be a school of the University is essential. Mr. Chamberlain said that such a scheme as he indicated would do a great deal for the medical services of this country and of the Empire, and he clearly anticipated that it would work in co-operation with the School of Hygiene and Tropical Medicine. A medical officer who returns from a distant colony or dependency desires to know something of the progress that has been made not only in tropical medicine and hygiene, but also in general medicine. The Colonial Office, therefore, has responsibilities, and we are very glad to know that the present Colonial Secretary recognizes this. Moreover, the India Office must also take an interest in the project, because study leave is granted to officers of the Indian Medical Service.

The scheme as it stands is not likely to escape criticism, and there will be those who will feel that Hammersmith does not quite fulfil the recommendation that the school should be "centrally situated"; it might be very advisable to establish its administrative offices within the University quarter in Bloomsbury. Moreover, when all the money that can be expected from State sources has been voted by Parliament there will still remain plenty of room for private generosity if the buildings of the school, and their equipment, and the teaching facilities and opportunities for study they provide, are to be adequate and worthy.

THE ADULT CRIPPLE.

In a preface to a little book called the *Making of a Cripple*,[1] Sir Robert Jones lays stress on the need for better provision for the vocational training of the adult cripple. It is obvious that the physical cure solves only half of the problem, and that an agency is needed which will take up the task where it is laid down by the educational authorities and carry it on until the cripple is able to earn his own living. To secure such an end Dame Agnes Hunt of Oswestry and Baschurch fame has formulated a scheme for the training of cripples in Shropshire, and asks for £5,000 to be devoted to that purpose. In her introduction to the autobiography of an Irish cripple Dame Hunt insists properly on the necessity of removing from the mind of the cripple the thought that he or she will not be able to earn a living, and to eradicate from the mind, as far as possible, all feelings of inferiority. Self pity equally with sentimental spoiling must be got rid of if the most is to be made of the cripple's possibilities. The editor of the *Cripples' Journal*, Mr. Frederick Watson, backs up Dame Hunt energetically in her appeal for funds and in urging the necessity of such a scheme in each of the areas under the Care of Cripples scheme. He sees no difficulty in training cripples or in persuading them to be trained, nor is he frightened by the spectre of unemployment, which might well daunt all those who are trying with the best of motives to increase the supply of skilled labour, notwithstanding the terrible figures of the returns of the unemployed. The difficulty of finding employment for the war-disabled after they had been taught a trade has been one of the great causes of trouble and disappointment to all concerned with the rehabilitation of the disabled in this country, and it is likely to continue to be so until a very great revival takes place in industry. The story which Sir Robert Jones, Dame Agnes Hunt, and Mr. Watson has introduced has, if we mistake not, appeared in the pages of the *Cripples' Journal*. It is a simple, but most impressive, autobiographical sketch of the experience of a young Irishman who appears to have been afflicted with a particularly severe infection by the tubercle bacillus, and probably other organisms, an infection which returned again and again during a number of years after apparent cure, so that his efforts to make good and earn his own living were repeatedly frustrated by illness, finally resulting in ankylosis of one knee and amputation of the other leg. But for these recrudescences the lad would have become prosperous, for he received vocational training in a charitable institution and treatment in the Victoria Hospital of the town of B——, which we may fairly assume to be the capital of Northern Ireland. If all cripples were to show his grit, initiative, and ability, and provided that the severity and duration of their disease were not extreme, there would be but few difficulties in the training of adult cripples.

[1] *Fag-ends, or the Making of a Cripple*, to be obtained, price one shilling, from the Publicity Department, Shropshire Orthopaedic Hospital, Gobowen, Shropshire.

M.R.C.S.

Last November the time-honoured farce of an annual meeting was duly performed in the theatre of the Royal College of Surgeons of England in Lincoln's Inn Fields, farcical because of the lack of reality in an annual meeting whose resolutions have no force, and are without effect on the conduct of the affairs of the College. The annual meeting of a commercial company passes or refuses to pass the balance sheet and approves or disapproves the conduct of the chairman and other directors, and has the power to render its disapproval effective. No such power is held by the annual meeting of Fellows and Members of the College, nor have the Fellows as such any powers except that of electing the council. At the last meeting the members present not only affirmed the desirability of admitting members to direct representation on the Council but requested "the Council to take a Postal Vote of Fellows and Members on the General Principle as set out in the Resolution." The Council has in part granted this request, by sending out a circular asking the Fellows to answer "Yes" or "No" to the question: "In your opinion is it desirable that Members of the College should have direct representation upon the Council?" The effect of the replies to this circular is not yet known. In the explanatory statement accompanying the circular issued to the Fellows, the Council urges the difficulty of attempting to poll the 18,000 members which would, in its opinion, make it impracticable "to arrange an election of members of the Council, with Membership of the College as the sole qualification for those who vote." Thus the Council does not explicitly deny the desirability of giving votes to the Members, and this point has naturally been seized upon by the Society of Members in a circular it has addressed to the Fellows, commenting on the Council's "Statement." Both the "Statement" of the Council and the comments of the Members' Society are temperate, and free from that acrimony which has been a regrettable characteristic of some expressions of opinion by that Society or its spokesmen in former years. This long-lived

controversy seems to us to owe its existence and survival to the great difference between the sense in which the Council regards the duties and functions of the College as stated in the Charters and that in which those members who support the Society of Members interpret them. The Charter of 1800 stated "that the establishment of a College of Surgeons will be expedient for the due promotion and encouragement of the study and practice of the said art and science" of surgery. These words were repeated and emphasized in the Charters of 1822 and 1843, and, as the Council states, the functions of the College are twofold and concerned with the promotion of the science of surgery and with the promotion and encouragement of its practice. He would be a bold man who would assert that the College of late years has failed to carry out these functions effectively, or even to suggest that a Council elected by Members would do better work than a Council elected by Fellows, and we do not understand that the Society of Members makes any such assertion or suggestion. The Society takes quite other ground for its claim for representation. The signatories to the circular aver that the needs of the public are best appreciated by the Members of the College, who should therefore have the means of expressing their views through their representatives when the Council is consulted by the Government or other authorities. Moreover, it appears that the Society of Members thinks that the College should intervene in medical politics and endeavour to obtain the diploma of M.B. or M.D. for the holders of the conjoint qualification, and in other ways perform some of the functions, as the Council points out, of the General Medical Council and the British Medical Association. While such differences of opinion on principles exist there seems little hope of agreement between the disputants, but much will depend upon the result of the Council's referendum to the Fellows.

LORD BALFOUR ON THE INTERPRETATION OF EXPERIENCE.

THE EARL OF BALFOUR gave an address, on July 4th, at the second annual meeting of the British Institute of Philosophical Studies, a body which aims to establish a link between the professed philosophers and the educated public. The business of philosophy, said Lord Balfour, presented itself to the individual only after a certain stage of intellectual development had been reached. By the time a man became a philosopher, or would-be philosopher, he was already furnished with a large number of beliefs about the physical world, the world of human society, and the world of spirit, and the question faced him how to make a coherent creed out of this mass of convictions. To a number of educated persons a fairly simple answer to the problem would present itself. They would say that all knowledge was derived from experience, that it was science which dealt with experience, and that it must be left to science to satisfy the reflective reason. Certainly the growth of science had been prodigious and most fruitful. It was making a more rapid evolution at this moment than ever before in the history of mankind, and it might well seem that to science—this great and successful organized effort to understand the world—might be left the shaping of a creed. In the last century there were a number of able thinkers who were under the impression that science had really found the key, if not to all knowledge, at all events to the broad outlines on which could be formed a not inaccurate, though doubtless very inadequate, picture of the world in which we lived. That attitude of self-confidence was less apparent now among scientific thinkers than it was during the last three decades of the nineteenth century. Science itself had raised so many questions which it was unable to answer that no great man of science was now given to be dogmatic. But the world of science took as its province the cause and explanation of all phenomena. It based itself upon experience. It stated that all that we knew about the world was obtained by a series of what might be called messages sent from that world to each observer. At every moment we were receiving messages from all parts of the universe—messages which reached our senses simultaneously, but some of which, like the light of the nebulae, had their origin possibly millions of years ago, while others sprang from the passing moment. Our senses were rather like the morning's post, which might include letters from Australia and from the next street, reaching us at the same moment, but differing greatly in their contents and in the time to which those contents referred. The messages, if taken in their literal form as revealed at any given moment, were misleading. Science, for example, had much to say about the constitution of matter which was in direct contradiction to the natural or instinctive perceptions or experiences. From ordinary observation the first thing which a man would infer from the material world was solidity and material contact, but science now presented the atoms constituting matter as resembling planetary systems in the relative vastness of empty space separating their molecules. How came it that the messages gave information so entirely different in character from the conclusions of science? He did not think that facts like these could be explained by science alone. There must be a framework, not material, within which such a world as that could be conceived. A philosopher must go beyond the findings of science if he was to satisfy his reason. Lord Balfour added that in his opinion the problem of messages—of the impressions made by outward things upon the senses—needed much more attention than it had received. He could not help thinking that some of the lower animals—the birds, for example, in their migrations—received messages of a kind unknown to the human being. In conclusion he urged that all this constituted a justification for the British Institute, whose object was the promotion of philosophical study in every way in which it could be forwarded by associated effort and the helping of individuals to make for themselves a certain interpretation of their experiences.

THE BOARDING OUT OF TUBERCULOUS CHILDREN.

DR. W. BOLTON TOMSON, medical superintendent of the "Sea View" Sanatorium, St. Leonards-on-Sea, has written a pamphlet in advocacy of the Grancher system for the prophylaxis of tuberculosis in poor delicate children.[1] He reproduces evidence from Sir George Newman and others on sanatorium methods of treatment for adults, to show that far better results may be anticipated by early treatment in childhood. He points out also the limitations of the preventive measures for children, such as day and residential open-air schools, adopted by some public bodies. The cost of the latter institutions is prohibitive and the stay in them is too brief to be effective; in day schools the children return to infected homes at night. The Grancher system of "boarding out" was established in France in 1903, and appears to have been very successful; so that when Metz and Strasbourg became reattached to France they immediately created branches of the Grancher Association. The system as practised in England differs somewhat from the plan carried out in France. Dr. Tomson claims that the Tuberculosis Care Committee of the Borough of Hastings was the pioneer of the system in this country. This committee does not deal with apparently healthy children simply because they are contact cases. It selects those contact children who show signs of failing health, who are proved not to be suffering from a temporary ailment, and who may be assumed to have become tuberculized

[1] London: Baillière, Tindall, and Cox. 1927. (Pp. 24; 1 plate. 1s. net.)

even though physical signs are absent. These children are removed from the danger zone by being boarded out from the time when they are old enough to leave home until they are fourteen years of age. Suitable cottages in the country are found either through private information or by advertisement. Married couples with no children are given preference; sometimes a widow with no child is selected. The home should belong to people of the children's social class. The cottages are inspected, special attention being paid to sleeping accommodation and the nature of the food. It is stipulated that the child shall not be employed in domestic work, and arrangements are made for attendance at the village school. Medical attendance is assured by the payment of an extra 6d. a week for each child. The children are visited by some one from the Care Committee, at first once a week, but later not more often than once a month. The cost of boarding out to the Hastings Care Committee has been 11s. 3d. a child a week, as compared with 26s. a week in residential schools of the London County Council. Dr. Tomson enumerates various sources from which tuberculosis care committees can obtain the necessary funds; such as grants from health committees and boards of guardians, the Red Cross, approved societies or insurance committees, local education authorities, some charities, and sundry voluntary efforts—for example, church collections, bazaars, and flag days.

YORK MINSTER CELEBRATIONS.

THE medical profession was fittingly represented at the celebrations of the 1,300th anniversary of the foundation of York Minster by Sir Berkeley Moynihan, the President of the Royal College of Surgeons of England, whose life work has been done at Leeds, by Sir D'Arcy Power, whose association with Whitby has been long and intimate, and by Sir James Berry, who is nearly as well known as an archaeologist as he is for his surgical ability. The celebrations on Monday, July 4th, were attended by representatives from universities, colleges, and schools, who robed in the neighbouring church of St. Michael-le-Belfry, where a procession was formed which entered by the great west door of the Minster, and was allotted seats in the nave, where the services are being held. The "Act of Praise" commemorated the chief actors in the long history of the church. It was followed by the Te Deum, a lesson from Wisdom, read by the Dean; Boyce's anthem, "O praise the Lord, ye that fear Him"; a hymn from the Scottish Psalter; a sermon by the Bishop of Manchester, and Heber's stirring "The Son of God goes forth to war." The service was attended by a very large congregation, many of whom had already been present at the Solemn Eucharist and Procession which preceded it. All the arrangements were carried out most excellently, and the musical portions of the service were beyond all praise even in a county like Yorkshire, which prides itself upon its musical ability.

THE ACTION OF FIXING SOLUTIONS ON THE LIVING CELL.

THE current number of the *Quarterly Journal of Microscopical Science* contains a paper by Dr. R. G. Canti and the late T. S. P. Strangeways describing the action of fourteen of the more commonly used fixatives upon fibroblasts isolated from the choroid of the chick embryo, and cultivated *in vitro*. The effect of individual fixatives upon the normal constituents of the living cell was observed by the dark ground illumination, and the action upon the various cell constituents—namely, the nucleus, nucleoli, fat globules, and mitochondria—recorded by means of accurate drawings made with the help of the camera lucida. The drawings show in a remarkable manner the way in which certain fixatives alter the cell to such a slight extent that the intracellular contents are clearly visible after fixation, whilst other fixing solutions may injure or even destroy some of these intracellular bodies. Notable among the former is osmic acid, which does not appear to shrink the cell, or to cause the protoplasmic processes to be withdrawn; there is very little precipitation of the protoplasm, and this occurs only around the nucleus; the fat globules and mitochondria are perfectly preserved. A fixative containing acetic acid, on the other hand, causes the disappearance of the mitochondria, whilst preserving the fat. After alcohol or other fat solvent not only do the mitochondria disappear, but the fat is also dissolved, leaving a clear area. If a mixture containing free chromic acid, such as Flemming's solution with acetic acid, is used it is found that in the presence of the intense light of the dark ground illuminator the cell becomes dissolved, the cell "wall" first disappearing, then the cytoplasm, and lastly the nucleus. Only the fat which has remained adherent to the coverslip is left. If in the same preparation a fresh cell fixed at the same time as the preceding ones, but not so far exposed to the bright light of the dark illumination microscope, be moved into view, the same process of dissolution is repeated. The authors have no explanation of this reaction. It appears to be the opposite of that which takes place in the "gelatin bichromate" photographic process, in which a colloid in the presence of bichromate is rendered insoluble in water on exposure to light.

TAIT McKENZIE SCULPTURE.

DR. R. TAIT MCKENZIE, Professor of Physical Education at the University of Pennsylvania, Philadelphia, has a remarkable exhibition of sculpture at the Fine Art Society in Bond Street. This is of special interest to medical men at the moment in view of the forthcoming Annual Meeting of the British Medical Association in Edinburgh, as many of the main exhibits are studies and sketch models for the Scottish War Memorial which is a gift from America. The underlying idea of Professor Tait McKenzie's beautiful group is explained by the inscription upon the pedestal of the main figure—"1914—A tribute from men of Scottish blood and sympathies in America to Scotland." The memorial is to be carried out in bronze and Craigleith stone. It shows a kilted youth with his rifle across his knees, seated but preparing to spring up to answer the call to arms, in front of a frieze which forms the background of the memorial and depicts a procession of marching recruits headed by pipers. These figures, like all his work, are remarkable for their sense of action. Underneath is carved the legend: "If it be life that waits, I shall live forever unconquered. If death, I shall die at last, strong in my pride and free." A fine idea, finely executed. It is to be erected on the north side of West Princes Street Gardens, opposite Edinburgh Castle, and will be unveiled in September. Professor McKenzie gave up his sculpture for war service, and at an earlier period was first demonstrator and then lecturer on anatomy at McGill University, Montreal; his work bears witness to his intimate knowledge of the anatomy of the human figure, and is especially notable for the rhythm and movement of his figures in action. His statuettes of athletes, among them "The Javelin Cast" and "The Pole Vaulter," are delightful and full of vitality. He shows three admirable friezes, two of football called "The Punt" and "The Line Play," and one of men skating entitled "Brothers of the Wind"—a beautiful design that gives a tremendous feeling of rushing through the air. He shows also a sketch for a Cambridge memorial, many interesting portrait medallions, and some amusing grotesques. Professor Tait McKenzie's sculpture is known on the Continent as well as in England and America, having been exhibited not only at the Royal Academy and the National Academy, but also at the Salon and elsewhere.

MEDICAL INSURANCE AGENCY.

A MEETING of the Committee of Management of the Medical Insurance Agency was held under the chairmanship of Sir Humphry Rolleston, Bt., on Thursday, June 30th, at the House of the British Medical Association, Tavistock Square. A report was presented by the Secretary, Mr. Ferris-Scott, on certain adjustments with regard to income tax which had been made with the Inland Revenue, and the Solicitor stated the conditions upon which the Board of Trade was prepared to agree to an alteration in the Articles, allowing the inclusion on subcommittees of persons other than members of the medical profession.

Annual Report.

The Chairman's report on the work for the year 1926 stated that there had been steady progress in the affairs of the Agency, and that it could once more be said that the influence the Agency was able to bring to bear in all matters relating to insurances as they affect members of the profession was being more and more widely appreciated.

In life assurances yet another record was set up. During 1926 the Agency received on behalf of various recommended companies 237 proposals to secure sums assured of over £200,000. Proposals numbering 202, for amounts totalling £172,916, were completed in the year, 23, to the amount of £23,700, were declined, deferred, or were not taken up by the proposers, and 12, amounting to £12,263, were transferred to 1927. This was a record of which any agency might well be proud. The greatest care was taken in the selection of the companies to whom the Agency introduced members and in settling the particular form of policy most suitable to the insured's needs. All the companies with whom business had been placed had shown good bonus results, and it was the custom of the Agency, in all cases where applicable, to recommend "With Profit" contracts in well selected companies.

Apart from ordinary life assurances and endowment assurances, the Agency had arranged many contracts for the benefit of children for educational purposes and for protection in later life, for partnerships, etc. The Agency's recommendations had been freely followed, and it was rare for a case to be lost in competition once a recommendation had been made. The field of life assurance was not restricted to the United Kingdom, but policies had been arranged for members in India, South Africa, Egypt, and the West Indies. A great advantage had been secured for members of the Naval and Military Services, inasmuch as one of the leading companies, closely allied to the medical profession, had decided, in ordinary circumstances, not to charge a "service" extra premium. This was of more particular interest to those in the Indian Medical Service, in whose cases hitherto it had sometimes been difficult to arrange contracts that could be considered to be on a basis favourable to the assured. The assurances negotiated by the Agency to date in respect of life and endowments, educational endowments, children's policies, etc., totalled a capital sum of over £1,250,000.

The doctors' special policy for the insurance of motor cars showed a considerable increase in the number of new contracts negotiated. There could be no doubt that this policy, which was underwritten at the request of the Agency for members of the profession, was appreciated, as many of the new insurances arranged were a result of the recommendations of members already holding these policies. During the year the Agency had many difficult problems to solve in the matter of disputes in connexion with claims made under the doctors' special policy; in every case but one amicable settlements were effected. This branch of the Agency's work was assuming somewhat large proportions. It was hoped in the early part of the year that it would have been possible to secure lower rates of premiums, but there was at present no indication that rates would be lowered, at least for some considerable time. Claims under motor car insurances were commonly heavy, and medical men formed no exception to the rule that they were also frequent, possibly because of the continuous and long daily use of their cars. The Agency, however, had a claims service record second to none, and would continue to scrutinize closely motor car insurance in all its aspects, and so protect the interests of those insured through its medium.

The demand for the services of the consulting engineers continued to grow, and more frequent use was being made of their services in connexion with the purchase, hire, and repair of cars and also as arbitrators.

In the general section, which included fire, household, employers' liability, accident and sickness, etc., there was a considerable increase in the number of policies negotiated, and renewals had been maintained at a high figure.

Speaking generally, the steady increase in the work of the Agency was a matter for congratulation, and as larger numbers of the profession took advantage of the facilities to be secured through the Agency, not only would they act to their own advantage, but would help the Agency to increase its influence and usefulness.

The subcommittee dealing with the education of orphan girls worked in co-operation with the Royal Medical Benevolent Fund Guild, and doubtless would soon be in a position to extend its scope.

The scheme foreshadowed some few years ago, and mentioned in the last annual report, whereby medical practitioners may obtain financial assistance in the purchase of partnerships or practices was now nearing the end of the experimental period, and with cordial co-operation of insurance experts would soon be a recognized form of business.

Balance Sheet and Accounts.

The premium income collected through the Agency amounted to £67,606 in 1926 as compared with £61,369 in 1925 and £56,221 in 1924. The revenue of the Agency increased in the year by £530. The rebates to doctors insuring through the medium of the Medical Insurance Agency for the past six years were as follows:

1921	... ...	£1,697	1924	... ...	£2,811
1922	... ...	£2,064	1925	... ...	£2,791
1923	... ...	£2,069	1926	... ...	£2,965

the total so distributed now reaching £25,300.

Grants to the amount of £1,911 5s. were made to the Medical Charities during 1926, the total distributions made to the end of that year being £16,306 10s., divided as follows:

	£	s.	d.
Royal Medical Benevolent Fund	4,749	10	0
Royal Medical Benevolent Fund Guild ...	4,673	5	0
Epsom College	3,628	0	0
M.I.A. Educational Grants (Girls) ...	1,147	10	0
Sundry Charities	2,108	5	0
	£16,306	10	0

The accounts for the year 1926 were duly audited by Messrs. Price, Waterhouse and Co., who were reappointed as auditors.

The committee resolved to distribute the following further amounts:

Royal Medical Benevolent Fund	£525
Royal Medical Benevolent Fund Guild	£525
Epsom College Benevolent Fund	£210
British Medical Association Charities Fund ...	£425
	£1,685

SOCIETY FOR THE PREVENTION OF VENEREAL DISEASE.

THE eighth annual general meeting of the Society for the Prevention of Venereal Disease was held on June 28th, with Sir BASIL PETO, M.P., President, in the chair.

The following resolution was proposed by Dr. J. H. SEQUEIRA, and carried unanimously:

> That this annual general meeting of the Society for the Prevention of Venereal Disease desires to call the attention of the Minister of Health and the public to the facts:
>
> (1) That recently a man was sentenced in Manchester to six weeks' imprisonment for selling printed information similar to that distributed by this society.
>
> (2) That the man had sold similar printed information in other districts without prosecution and with the unofficial approval of medical officers of health and military commanding officers.
>
> (3) That the information supplied by this man was similar to that which is quite legally distributed by certain local authorities.
>
> (4) That the methods of prevention described were those which have been officially taught and successfully practised in the navy, army, and elsewhere.
>
> (5) That the above facts illustrate the present contradictory and deplorable legal position.
>
> (6) That in view of the prevalence of venereal disease and its disastrous results on national efficiency and the great cost of the present method of dealing with it only by curative and not preventive methods, as well as of the above facts, the Society for the Prevention of Venereal Disease calls upon the Ministry of Health to amend the Venereal Disease Act, 1917, so as to give effect to the recommendation contained in Clause 14 of the Report of the Departmental Committee of Inquiry held under the chairmanship of Lord Trevethin in 1923: "That the law should be altered so as to permit properly qualified chemists to sell *ad hoc* disinfectants provided such disinfectants are sold in a form approved and with instructions for use approved by some competent authority."

Dr. Sequeira stated his belief that there was at the present time an increase in venereal disease, due, in his opinion, to the fact that a post-war generation had arisen which had not received instruction in disinfection given to those who

served during the war, and he considered it essential that another wave of propaganda should be organized.

Sir JAMES CRICHTON-BROWNE said that Great Britain, although maintaining her position in preventive medicine generally, was falling behind the other nations of the world in regard to the prevention of venereal disease. He was unable to understand the attitude of the Ministry of Health, particularly as he was certain that if a ballot on the subject was taken of the ninety-eight medical men who held positions in the Ministry of Health there would be an overwhelming majority in favour of disinfection. He ridiculed the position that the honorary secretary of the society was actually giving lectures to prisoners at one of the large prisons at the invitation of the prison authorities and imparting scientific information while one of his audience might possibly be undergoing a sentence in that very prison for imparting similar information in leaflet form to the public outside.

Scotland.

ANNUAL REPORT OF THE SCOTTISH BOARD OF HEALTH.

THE year 1926, which is the period covered by the Eighth Annual Report of the Scottish Board of Health, will be remembered as the year of the long stoppage in the coal-mining industry, which raised serious problems for both the central department and local bodies, such as the payment of poor relief to the families of able-bodied miners. The customary good relations between the Board and local authorities, however, remained unbroken throughout, and the Scottish system of local government was once more able to demonstrate its vitality and power of adaptation. No evidence, at least, appears in the report that the health services of the country were appreciably impaired by the events of the year. The tale, on the contrary, is one of progress and expansion, with falling death rates and favourable signs.

Lethargic Encephalitis.

A lucid and sympathetic article is devoted to the discussion of lethargic encephalitis. It was prepared to meet the expressed desire of medical practitioners and others to be supplied in compendious form with reliable information on this obscure but formidable disease. It was first recognized in Scotland in 1918 and was made generally notifiable by the Board of Health in 1926, when 278 cases were notified. Glasgow, where notification had been introduced in 1918, had 683 cases recorded in six years. The article, after dealing with the prodromal stage and the onset, passes to the two main clinical types of the acute disease, of which the first, less common, points to the central nervous system, while the second, comprising about 90 per cent. of cases, presents localized symptoms. The phase of the so-called sequelae, which may show itself even a year or two after apparent recovery from the acute attack, tends slowly and intermittently towards exacerbation.

The features of this late stage of encephalitis are described as so distressing that those who die early may be reckoned more fortunate than many who survive. It is the condition of these late sufferers that constitutes the administrative problem in Scotland, as elsewhere, to-day. Prevention, no doubt, should be the aim, and early treatment is the second line of defence, but at the moment the pressing requirement is the care and control of those already in the clutch of the late developments of the disease. In Scotland their number is not far short of a thousand. The actual total may exceed this estimate and new cases are being brought to light almost daily. The late phase is not a true sequela or after-effect, consequential on a destructive process already completed. It is something active and continuous, though intermittent, it may be, in its action. *Post-mortem* examination reveals persistent subacute inflammation of the mesencephalon. The late symptoms are described, including the Parkinsonian syndrome, with its tremor or rigidity and vacant expression, where the mind seems active behind a veil: the restless type which turns night into day so that the rhythm of life is upset, and the refractory type, most frequent in childhood and youth, in which lying and theft, perversion and depravity, become so painfully manifest.

Early diagnosis, though difficult, is necessary, and the advice is given that any pyrexial illness without obvious local or general cause, especially if it occurs in regions and at times when encephalitis is prevalent, should induce the attending physician to ask himself the question "Is this perhaps a case of epidemic encephalitis?" At a conference held in March, 1926, to consider the disposal of cases it was agreed that acute forms should continue to be sent to the infectious diseases hospitals. The parish council of Glasgow offered to take late cases into its hospital at Stobhill. This offer was accepted. At the end of the year there were fifty-six late cases in Stobhill and 101 awaiting admission.

Tuberculosis.

The deaths from all forms of tuberculosis in Scotland in 1926 numbered 4,857, representing a death rate of 99 per 100,000, less by 38 per cent. than ten years ago. The admissions to sanatoriums and tuberculosis hospitals were a little over 8,500. On the question of schools at sanatoriums the comment is to the effect that in the sanatorium the medical aspect must take precedence, and educational arrangements should be carefully adjusted to the requirements of treatment. As a rule school classes in sanatoriums should meet for comparatively short periods. In suitable cases a certain amount of instruction can be provided by the teaching staff to patients confined to bed. As regards bedside instruction, the limited experience available suggests that the instruction hour is welcomed as a break in the monotony of a wearisome day.

A number of Scottish medical officers were invited to give an account of their experience of the practice of artificial pneumothorax and the results obtained. In 374 of 492 cases in which the treatment was attempted a complete or partial pneumothorax was induced, and in 176 of the 374 degrees of improvement were recorded. Some medical officers employed pneumothorax as a remedy for repeated haemorrhages: others for the replacement of pleural effusion and in recurrent dry pleurisy. Emphasis is laid on the risks of the operation, and on the contingency that, while the protracted treatment is in progress, active disease may develop either in the collapsed lung or the other. Reports of eleven series of cases are summarized, the most extensive being that of Dr. Crocket of Bridge of Weir. Of 243 patients whom he treated 54 got real benefit, which was permanent as a rule.

(*To be continued.*)

PRACTITIONERS AND HOSPITALS IN GLASGOW.

That a local medical committee, as such, and as distinguished from the panel committee, may still perform useful functions is shown by recent action in Glasgow. The local medical committee there wished to promote more hearty and easy co-operation between general practitioners and members of hospital staffs, and to this end set up a "hospitals subcommittee" to investigate possible methods by which a closer relationship might be established to the advantage of patients and medical practitioners alike. On to the subcommittee were co-opted the medical officer of health and the superintendents of the Royal, Western, and Victoria Infirmaries, and the Royal Hospital for Sick Children; the joint committee so formed has now issued for distribution to the medical profession throughout Glasgow a "booklet of suggestions, requests, and items of information." This booklet, well arranged and clearly printed, is entitled *Notes on Hospital and Infirmary Arrangements*. It sets out, in a manner easy for reference, the hours at which patients are received and seen at the various hospitals and their special departments, and at the venereal diseases treatment centres, maternity and child welfare clinics, and tuberculosis dispensaries under the auspices of the public health authority. It contains, further, some valuable notes and suggestions on the procedure which should be observed in sending patients to hospital for admission, or to dispensaries and special departments for opinion or treatment. Among these notes are the following, which may be commended, the one to general practitioners, the other to members of hospital staffs, not

only in Glasgow, but elsewhere: "A letter accompanying a patient is of great value to the staff and is an act of courtesy which should always be observed. A professional card is not a substitute for a letter." "National health insurance patients, except in cases of urgency, are not attended to unless referred by the practitioner responsible for their treatment."

England and Wales.

MEMORIAL TO DAME LOUISA ALDRICH-BLAKE.

SIR WILLIAM BEVERIDGE, Vice-Chancellor of the University of London, unveiled on July 4th the memorial to Dame Louisa Aldrich-Blake which has been set up in the garden of Tavistock Square. The memorial takes the form of a graceful pedestal, the design for which is the gift of Sir Edwin Lutyens, R.A., surmounted by two bronze casts of the same bust, the work of Mr. Arthur Walker, one facing towards the garden and the other towards the street. Below the busts on each side are set out Dame Louisa Aldrich-Blake's name and distinctions, and the fact that she was Dean of the London (Royal Free Hospital) School of Medicine for Women 1914-24, consulting surgeon to the Royal Free Hospital 1919-25, and surgeon to the Elizabeth Garrett Anderson Hospital 1895-1925. The inscription concludes with the sentence, "The path of the just is as the shining light." Dame Mary Scharlieb presided over the brief ceremony, which was attended by many representatives of the two hospitals and the school. Sir William Beveridge said that the monument called to mind a singularly gifted personality, one who lived a very happy life, happy not only in itself, but in its power of conferring happiness on others. Dame Louisa was a highly skilled surgeon, but over and above this she helped to create and maintain the traditions of a great school, and she inspired many with her own ideals. It was appropriate, said Sir William Beveridge, that the monument should stand in what would more and more become the heart of university London, in whose wider problems she had been keenly interested. Students in increasing numbers would pass that spot, and they would be reminded thereby of one of the great pioneers in the professional education of women. Lord Riddell, president of the Royal Free Hospital and chairman of the Memorial Committee, mentioned that, apart from royal personages, there were only two other statues to women in the metropolis. No doubt he had in mind the memorials to Florence Nightingale and Edith Cavell. He said that the object of the memorial was to perpetuate the memory of a great lady who conferred inestimable gifts upon that district. The two institutions with which she was connected, and which might be called her adopted children, the Royal Free Hospital and the Elizabeth Garrett Anderson Hospital, were, in different directions, only some five hundred yards away, and the existence of such a monument should stir local patriotism if that could be stirred at all in the vast conglomeration of London. The lady it commemorated was distinguished for her nobility of character and her professional attainments. She was sympathetic, patient, and able, but perhaps the greatest of her qualities was her sincere and undeviating love of truth. Brief tributes were also paid by Dr. Elizabeth Bolton, chairman of the Medical Board of the Elizabeth Garrett Anderson Hospital, who spoke of Dame Louisa's capacity for helping others and her great accessibility on all ocasions, and by Lady Barrett, her successor in the deanship, who said that every student realized that in coming into touch with her she had found one who was a very wise woman, full of counsel and timely help. The benediction was pronounced by the Rev. F. H. Aldrich-Blake, a brother, and a wreath was deposited on behalf of the students of the school. The monument is only one part of the memorial to which the fund raised by the family, many colleagues and friends, and the past and present students of the school is being devoted. The other parts are the endowment of a travelling scholarship to bear her name and to be open to all medical women graduates in the kingdom, and the provision of replicas for the two hospitals of the portrait by Sir William Orpen, which was shown at the Royal Academy of 1923, and is now the property of the medical school.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

An interesting ceremony took place on June 30th at the site of the Royal Westminster Ophthalmic Hospital's new building in Broad Street, W.C.2, when a commemoration stone was laid by the Duke of Connaught, for twenty years president of the hospital. His Royal Highness was received on arrival by the acting chairman, Lord Desart, members of the committee, and the secretary, and inspected the guard of honour of the Queen's Westminster and Civil Service Rifles. A large number of former patients were present, twenty of whom were presented to His Royal Highness, who spoke a few words of congratulation to them on the signal benefits they had derived from their treatment at the hospital. He then entered the temporary reception room which had been arranged in what will be the entrance hall of the new building. Lord Desart opened the proceedings by expressing his pleasure that the Duke of Connaught was able to be present. After referring to the unfortunate absence of the chairman, the Earl of Arran, and welcoming the Mayor of Holborn and the Bishop of Stepney, Lord Desart emphasized the fact that the hospital's activities had outgrown its accommodation and that this move to a new building was necessary in order that the public might be adequately served; he hoped that even better work would be done in the new hospital than in the old. The new building would cost £130,000: the sale of the old site had realized £70,000 and £20,000 had been received, so that £40,000 was still required, besides the sum needed to cover the extra cost of maintenance. Mention was made of various generous gifts, notably £10,000 from Mr. Bernhard Baron, in recognition of which a ward in the new hospital was to be named after him. It was thirty years since the hospital had made a general appeal, and Lord Desart trusted it would not suffer because of its reticence.

The Duke of Connaught then laid the commemoration stone, and in his speech afterwards described this occasion as a landmark in the hospital's history of 110 years. Founded by Dr. Guthrie and the Duke of Wellington—who was His Royal Highness's godfather—it had faithfully served the community in the care of the sick, while the valuable work of teaching and research had been carried out all the time. In all this much was due to the magnificent work of the medical staff. Dr. Guthrie gave fifty years of his life to the service of the sick. Then there were the late Gustavus Hartridge, Mr. Work Dodd, Mr. George Powell, Dr. Adams Frost, Dr. Grimsdale and many others, not to mention the present staff, which included many distinguished surgeons. The new hospital would be the finest in the country: designed by Mr. Percy Adams, it would be four times the size of the old building and eight stories high. One hundred thousand patients could be dealt with annually, and it would include eighteen private rooms for those patients who desired accommodation less expensive than that of the ordinary nursing home. His Royal Highness referred to the financial position and the increased cost of maintaining the larger hospital. He mentioned certain gifts to the building fund, and commended the committee for its prudent management of the hospital's property. Finally, he wished the Royal Westminster Ophthalmic Hospital prosperity in the future and ever-increasing success in its valuable work. The Bishop of Stepney asked a blessing on the work of the institution. The Mayor of Holborn, welcoming the hospital to its new home in the Borough of Holborn, said that the new site was most suitable. Holborn, being smaller than Westminster, had not such great resources, but its citizens would do their best for the hospital, and welcomed it with all good wishes.

LONDON HOSPITAL MEDICAL COLLEGE AND NEW CLINICAL THEATRE.

Lord Eustace Percy, President of the Board of Education, distributed the prizes at the London Hospital Medical College and Dental School on June 29th, and following this ceremony Viscount Bearsted opened at the hospital the

new clinical theatre, which is the gift of his late father. Colonel W. Marlborough Pryor, chairman of the college board, presided at the prize distribution, and the dean, Professor William Wright, gave some account of the distinctions gained by students and the changes which had taken place in the staff during the year. He mentioned that the hospital had lost by retirement from the active staff Lord Dawson, Dr. Sequeira, and Dr. Probyn-Williams, all London Hospital men who joined the college as far back as 1884, but it had been found possible, he was glad to say, to retain in part the services of Lord Dawson by electing him an extra-physician. Lord Eustace Percy began with a reference to his responsibility to Parliament for the school medical service, and mentioned that during the last two years there had been an increase of nearly 20 per cent. in the number of school clinics and of over 20 per cent. in the number of hospitals with which local authorities had arrangements relating to the care and treatment of school children. He went on to speak of the privileges which those in front of him enjoyed or were about to enjoy as members of a skilled profession with definite qualifications recognized by academic authorities. Comparatively few people in the community had privileges and status of that kind. The medical profession was frequently referred to as a trade union. Ignorantly and sometimes maliciously as that expression might be used, he was not sure that the medical profession should repudiate it, for historically the skilled professions originated in the same way as the industrial crafts, and in the Middle Ages the medical profession was a guild like any other. But whereas through the succeeding centuries the medical profession had co-operated steadily with the universities and schools and had become an integral part and a controlling factor in our national system of education, the industrial crafts had never yet succeeded in exercising the same influence. The profession had not fallen into that error, to which public opinion was often inclined, of drawing a hard and fast line between a liberal and a vocational education, and he believed the distinction between these two would tend to disappear in other callings and industries as they developed educational requirements for themselves. Lord Knutsford presided at the opening of the new clinical theatre, and said that the building of the theatre and the establishment of a lectureship in connexion therewith, at a total cost of £10,000, was only the last of many very generous gifts by the late Lord Bearsted. Dr. Robert Hutchison said that the theatre fulfilled a great need, for the clinical theatre which the hospital had hitherto used was ill adapted to the purpose on account of street noises and other drawbacks. Lord Bearsted, in opening the building, said that his father's memorial would not be the mere building, but the reflection for his children that from that theatre, or inspired by the lessons taught there, generations of doctors would go out to relieve human suffering.

The Health of Eastbourne.

The annual report for 1926 by Dr. W. G. Willoughby, medical officer of health for the county borough of Eastbourne, gives a very encouraging view of the health of the community under his care, and does credit alike to the medical officer, to the Sanitary and Public Health Committee, and to the members of the medical profession who zealously co-operate with him. He is able to report an improvement in the housing conditions, and to forecast still greater improvement as the scheme now in hand progresses. The general death rate was 10.75 per 1,000, or 0.85 below that of England and Wales, and lower than in 1925. The infantile mortality rate of 42 per 1,000 is lower than that of any of the large towns excepting the London suburbs. Diphtheria was practically absent from the borough, and this without the employment of any new method of prevention. Only one child and two adults contracted this disease. Cancer is on the increase, but tuberculosis is decreasing, as is the case generally elsewhere. A good beginning has been made with an orthopaedic scheme with the help of an unpaid voluntary clinic. These statistics, favourable as they are, would be better still if, as Dr. Willoughby thinks probable, the population of the borough is considerably greater than that estimated by the Registrar-General, namely, 56,060. Dr. Willoughby thinks that the population is well over 60,000, for, taking the number of occupied houses, and the number of persons to each house as six, which is slightly under the census figure, there would be 66,010 inhabitants at the end of 1926. The birth rate, on the official estimate of population, was 12.9 per 1,000, and the death rate, as before stated, 10.75. Despite its generally advantageous situation, Eastbourne has a crowded east end, which is low-lying, and the medical officer of health states that there are still a number of basement flats which are not really fit especially for the rearing of children. Like other places, Eastbourne still suffers from the cost of building. The houses already built and to be built by the borough, although let at rents lower than economic, are still too expensive for those classes of the community who most need improved accommodation. The problem is still unsolved. The reports on the water supply and on sanitation generally are satisfactory. The Maternity and Child Welfare Subcommittee has done good work. An admirable and really decorative chart, printed in colours, showing the principal meteorological conditions during each day of the year 1926, is attached to the report.

Ireland.

Sale of Poisons Acts in Northern Ireland.

The Home Ministry of the Northern Government has notified the Down County Council that it has deferred to an objection by the Pharmaceutical Society against the issue by the county council of 10s. licences under the Sale of Poisons Acts to a number of general traders to sell poisonous substances, such as sheep-dip and weed-killer, to be used exclusively in connexion with agriculture or horticulture, the cause for the objection being that within a reasonable distance of the licensees there were qualified chemists who stocked these poisons. Therefore, orders had been made cancelling seventeen licences in Downpatrick, Castlewellan, Rathfriland, Kilkeel, Ballynahinch, Comber, Portaferry, and Kirkcubbin. Under the Act of 1925 the decision of the Ministry is final, but the county council resolved to enter a vigorous protest, the cancelling of the licences being a serious hardship, not only to the traders accustomed for years to stock and sell these articles, but also to the farming community; it was stated that steps were being taken to secure the co-operation of the Ministry of Agriculture in sending a deputation to the Home Ministry.

Vaccination Defaulters in County Wexford.

At a recent meeting of the Wexford Corporation a letter was read from the Local Government Department pointing out that a conditional order of mandamus directing the corporation to enforce the Vaccination Acts was made on December 9th, 1926, and that the order was made absolute on January 21st. The absolute order was, with a notice of motion, served on the corporation as the special defendants on February 8th. Before considering the steps to be taken to enforce obedience to the mandamus the Minister desired to be informed if the corporation had taken any steps to comply. The matter was adjourned to the next meeting. At recent meetings of the Wexford County Board of Health two letters were read from the Department of Local Government and Public Health:

The first called the attention of the Board to extracts from reports by medical officers regarding the administration of the Vaccination Acts in County Wexford. The Minister for Local Government and Public Health desired that energetic action should be taken against all defaulters to ensure compliance with the law. The number of defaulters returned were: Bridgetown, 520; Broadway, 543; Camolin, 72; Clonroche, 1,344; Coolgreany, 501; Crossabeg, 225; Enniscorthy, 68; Ferns, 20; Fethard, 208; Gorey, 37; Killanne, 537; New Ross, 27; Old Ross, 434; Oulart, 446; Taghmon, 399; Wexford, 326; Bannow and Carrigbyrne, no Vaccination Acts enforced; total defaulters, 5,637. The second pointed out that it was the duty of the Board of Health to enforce the Vaccination Acts in the area under its control, and the Ministry was not prepared to acquiesce in the failure to carry out the duties imposed on the Board by law. The necessary instructions should forthwith be given to ensure compliance, and the name of every member of the Board of Health present when the letter was considered and the attitude adopted by each should be recorded. The matter was adjourned for a month.

Correspondence.

THE RAY OF HOPE IN RADIOTHERAPY.

SIR,—Your leading article on radium in uterine cancer, in the JOURNAL of June 25th (p. 1150), is of very great interest, and I also should like to congratulate Dr. Paul on his report. The results from a clinician's point of view would probably be described as "disappointing," and, indeed, if I thought that these results were never likely to be improved upon my interest in this line of treatment would sink to that of any other palliative method, such as zinc chloride, cautery, etc. In these methods we know how the results, such as they are, come about. In surgery also we realize how the results are brought about, and although some of the figures published are extremely good, yet there is very little likelihood of any further improvement. It is also interesting to note that the figures obtained in Stockholm by radium are better than by operation.

In radiotherapy, however, the case is very different. Here we have an agent which has a selective action on all quickly growing tissue, and so far the study of the technique has only just been touched upon. Even in our own series at St. Bartholomew's Hospital, consisting of about 200 cases (a short analysis of which I append), there has been a definite improvement with the change in technique, and it is impossible even to guess future developments *when once we know how radium acts.*

There are two ways in which this problem must be tackled. One is to find out the biological, chemical, and physical changes that take place in the individual malignant cell whilst it is disappearing under the influence of radium like snow before a fire. The second is to have a large institution with sufficient beds to try out different techniques on hundreds of cases. It would help, too, if the younger men were encouraged to do research work and to go and see other centres such as Paris and Stockholm.

It may be asked, Why is it better to have all the cases under the same roof instead of the present system of three or four in different hospitals? The disadvantage of the present system is that no real comparison can be made. For instance, we are trying a different technique at St. Bartholomew's from that at University College, and we think that the results are a little more hopeful, but we have no guarantee that the cases we treat are in any way comparable with those treated at University College.—I am, etc.,

London, W., July 1st. MALCOLM DONALDSON.

DURATION OF LIFE IN MONTHS OF PATIENTS FROM COMMENCEMENT OF TREATMENT WITH RADIUM.

(Period—May, 1921, to December, 1926.)

Inoperable Cases.

Patients still living.		Patients who have died.	
Period since beginning of treatment.	Number living.	Duration of life between treatment and death.	Number dead.
1 month or less... ...	1	1 month or less... ...	6
2 months	4	2 months	1
3 ,, ...	4	3 ,, ...	3
4 ,, ...	4	4 ,, ...	4
5 ,, ...	3	5 ,, ...	8
7 ,, ...	3	6 ,, ...	4
9 ,, ...	1	9 ,, ...	9
10 ,, ...	3	10 ,, ...	6
12 ,, ...	1	11 ,, ...	8
15 ,, ...	1	12 ,, ...	5
16 ,, ...	1	13 ,, ...	5
18 ,, ...	3	14 ,, ...	2
21 ,, ...	1	15 ,, ...	2
24 ,, ...	2	16 ,, ...	4
26 ,, ...	1	17 ,, ...	2
29 ,, ...	2	18 ,, ...	2
30 ,, ...	1	19 ,, ...	1
34 ,, ...	1	22 ,, ...	1
36 ,, ...	2	24 ,, ...	1
41 ,, ...	1	26 ,, ...	2
60 ,, ...	1	31 ,, ...	1
67 ,, ...	1	49 ,, ...	1

Borderline Cases.

Under 7 months ... None		Under 7 months ... None	
7 months	1	7 months	1
24 ,, ...	1	10 ,, ...	1
37 ,, ...	1	12 ,, ...	1
		36 ,, ...	1

Operable Cases.

1 month or less... ...	3	1 month or less... ...	0
2 months	1	11 months	1
4 ,, ...	2	12 ,, ...	1
5 ,, ...	2		
7 ,, ...	1		
11 ,, ...	—		
12 ,, ...	2		
13 ,, ...	1		
14 ,, ...	1		
18 ,, ...	1		
21 ,, ...	1		
24 ,, ...	2		
33 ,, ...	1		

THE EFFECT OF BATHING ON THE EARS.

SIR,—I feel a few words on this subject would be in season. Bathing has a general action on the body and a local action on the upper air passages and ears, directly.

Immersion in cold water tends to lower the resistance to infection according to the fitness of the bather and the length of time he is in the water. The latter factor is governed by the amount of fatigue and the temperature of the water. If the bather comes out of the water soon enough and employs brisk rubbing and keeps warm, there is a reaction characterized by a feeling of glow and by an actual leucocytosis. This is a satisfactory state at the end of a bathe; its absence or a sense of chilliness indicates that the bathe has been too long or should not have been taken at all. Sea bathing, by virtue of its greater salt content and the action of the wave currents, has less of a chilling effect than fresh water. The temperature on the shore should be taken into account as well.

The local action of water when bathing must be considered in its effects on the upper air passages and Eustachian tubes, and on the outer ears.

The chilling of the nasal mucosa causes a slowing of the ciliary action so that organisms are not swept away, and a local ischaemia so that the defensive blood cells are diminished in numbers, also there is a lessened phagocytic action. Further, the mucus, which has an inhibitory action on bacteria, is diluted or washed away. As a result of these local factors, bacteria already present or introduced with the bathing water are likely to obtain a successful entry into the tissues. A reactionary swelling of the mucous membrane with a blockage of the nasal passages, sinuses, and Eustachian tubes occurs. The bacteria implanted in the tissues will spread by the submucous channels and multiply in the closed spaces, such as the middle ears—an ideal state of affairs for an acute inflammation and empyema.

The action of bathing water on the outer ear is a chilling of its lining, so lowering its resistance, combined with a softening of the superficial skin layers and a varying amount of irritation, dependent on the state of the water. Infection does not spread to the middle ear from the meatus, however, unless the drum is perforated.

Salt-water bathing causes more irritation to the nasal mucosa and leads to more nose-blowing than fresh water. Sea water near towns is often heavily contaminated with sewage. Its action on the outer ear is often serious, because, by its irritating action and the grit contained in it, it leads to an infection, usually staphylococcal. Some bathers are particularly sensitive to salt water, and are apt to get a chronic eczematous condition of the meati.

The water of swimming baths is commonly infected, and this in the most dangerous manner—namely, in concentration on the surface. The infection comes from the skin, respiratory passages, the ears, and the urine of other bathers. It has been estimated that each bather requires a fresh supply of 800 gallons to be free from the danger of infection. Chemicals are added to swimming baths to render them innocuous, but, if carelessly added, may have an irritative action.

In considering the bather himself, it is necessary to deal first with the normal robust individual with healthy

ears. Diving has not been found to be harmful when properly executed. Jumping into the water feet first is a bad practice, as it drives the water up the nose unless the nostrils are held. A big wave striking the ear, or a blow at water polo, may do harm by damaging the drum, and these are instances where a bathing cap is a protection. Plugging the ears is unnecessary, but they should be dried completely and gently after bathing.

The meati should be clean and free from cerumen before bathing is begun. Fat people and women are not affected by bathing in cold water so much as others. Children should not be allowed to stay in too long, because their metabolism is largely engaged in tissue building. A desire to harden them often leads to harmful results. They are the commonest victims to ear trouble after bathing, partly because of their keenness, and therefore they should be carefully examined at all times as to their fitness for a bathe.

A person liable to have trouble with his ears, whose meati are sensitive to water, especially sea water, should plug his ears. The most satisfactory plugs are made of non-absorbent wool, or wool worked up with vaseline or grease, or soft rubber plugs lubricated with vaseline. Bathing caps do not keep water out of the ears.

Bathers subject to catarrh after bathing and those who cannot avoid water entering their noses may plug the anterior nares with non-absorbent wool with advantage. People who suffer from nasal obstruction should be warned that they, especially, are liable to ear trouble, and the cause should be removed by the appropriate local and general treatment first.

Anyone who gives a history of frequent colds and catarrh should be warned against bathing too long, and against allowing water to get up his nose. It may be advisable to prepare this type of individual by a course of cold baths in the morning, and an alteration in his general habits.

Those that have definite infection of an accessory sinus should not bathe until it has been cured, both as a protection to themselves and other bathers.

If there is active middle-ear disease no bathing should be allowed. If the ear condition is that of an obsolete suppurative otitis media, bathing may be allowed if ear plugs are used and the original cause of the ear trouble does not still exist.

The bather who has a chronic catarrhal middle-ear condition of the dry type should be warned to plug his ears and take particular care not to allow the entrance of water up his nose, and not to get "chilled."

If there is only one useful ear the person is probably best advised not to bathe, or at any rate not to submerge his head, and to bathe only on warm days.

Blowing the nose during or after bathing tends more to cause ear trouble than not indulging in this habit. This applies especially to those who blow their noses *against* their handkerchiefs rather than *into* them, and still more to those who have perforated or weak drums.—I am, etc.,

C. HAMBLEN THOMAS, F.R.C.S.Eng.

London, W.1, June 7th.

TREATMENT OF BURNS IN CHILDREN.

SIR,—I shall be greatly obliged if you will allow me to offer a suggestion in connexion with Dr. John Fraser's valuable contribution published in the JOURNAL of June 18th (p. 1089).

Under the heading of "the biochemical method" for local treatment, sodium bicarbonate is mentioned as the substance to be used for obtaining the necessary alkaline solution. From time to time, both in this country and abroad, references have been made to the use of borax for the same purpose, and, after consideration, it would appear that borax should prove the more suitable substance of the two. Like sodium bicarbonate, it is a mild alkali, but with the added advantage that it is stable at high temperatures. A study of the hydrogen-ion concentration gave the following results at a temperature of 38° to 40° C.:

Concentration.	*pH.*
0.5 per cent.	9.11
6.6 ,, ...	9.23

This indicates that there is only a slight difference between the alkalinity of a strong and that of a dilute solution. A solution of borax can be sterilized by boiling without any detrimental change, a treatment which cannot be applied to a solution of sodium bicarbonate, because decomposition would take place, with expulsion of carbon dioxide and formation of sodium carbonate. The latter is a caustic alkali, and may do more harm than good. The solubility of borax and sodium bicarbonate at 15° C. is given in Comey's *Dictionary of Chemical Solubilities* as 7.44 per cent. (Michel and Krafft), and 8.85 per cent. (Dibbits) respectively. Incidentally it should be noted that it is not possible to obtain a 10 per cent. solution of the latter at ordinary temperature.

Another reason which may weigh in favour of borax is that, although it does not rank as a bactericide, it does inhibit the growth of some organisms, and may be termed a mild antiseptic.

The fact that treatment cannot always be applied in a hospital where facilities exist for preparing the solutions accurately and under sterile conditions, as well as the considerations already indicated, go to show that clinical research in connexion with the use of borax for the treatment of burns may give useful and interesting results.—I am, etc.,

A. J. SOMER, B.Sc., A.R.C.Sc.

London, E.C.3, June 24th.

THALLIUM ACETATE.

SIR,—May I draw attention to one distinct source of danger in the therapeutic use of thallium acetate? I refer to the possible coexistence with ringworm of alopecia areata or, possibly, allied neuroses. Encouraged by the obvious stimulation of hair growth that takes place immediately before defluvium with an ordinary dose, I administered subepilating doses to some patients with alopecia areata. My results, which I give briefly, are sufficient comment.

1. A boy, aged 14, with alopecia universalis, was given 6 mg. of thallium acetate per kilo. Four days later he had pains in the knees and ankles so severe that he had to go to bed with a "cradle" over his legs for a fortnight. (One month later his eyebrows had begun to grow.)

2. A man, aged 35, with alopecia areata (a recent case with rapidly extending defluvium) was given 5 mg. per kilo (300 mg. altogether). Two days later he had "pins and needles in the muscles" from the waist downwards, severe pains in the joints of the lower extremities, loss of sensation in legs and feet, with inability to walk and emaciation. During this time he consulted a physician, who diagnosed peripheral neuritis and ordered him to bed. When I saw him, unfortunately not till a month later, I could find no abnormality of sensation, but the tendon-jerks of the lower extremities were exaggerated. He was still feeling poorly and his hair was still falling, though on the bald areas was a good growth of white lanugo.

3. A girl, aged 12, with alopecia areata, which had pre-existed and persisted after the cure of ringworm by *x*-ray epilation, was given 4 mg. of thallium acetate per kilo. She had severe pains in the knees, not, however, bad enough to keep her in bed. The alopecia had proceeded to total alopecia (sparing the "fringe") within three weeks. There is now new hair growing, only, however, on the areas not previously affected with alopecia areata.

—I am, etc.,

Brighton, June 29th. J. H. TWISTON DAVIES.

THE TESTING OF DISINFECTANTS.

SIR,—Our attention has recently been drawn to certain statements in the new (eighth) edition of Muir and Ritchie's *Manual of Bacteriology*. On page 756 the following paragraph appears:

"Much attention has been paid to the standardization of antiseptics, and a watery solution of carbolic acid is commonly taken as the standard with which other antiseptics are compared. The procedure in Rideal and Walker's method is to inoculate a fixed volume of a series of dilutions of the antiseptic to be tested, and at the same time a similar volume of a standard solution of carbolic acid—for example, 1 in 150; subcultures from all the tubes are made at short intervals and incubated. The results show (1) the time required to produce sterility with the concentration of carbolic acid used, and (2) the highest dilution of the other antiseptic which also produces sterility in the same time, say 1 in 3,000. The latter substance is then stated to have a 'carbolic acid coefficient' of 20. It is to be noted that in comparing antiseptics by the above method the question of the organisms being killed at different rates, by various substances, is not taken into account."

In view of the fact that this book is often accepted by medical students and others as a standard work upon the medical aspect of bacteriology, we, as originators of the Rideal-Walker test, and as consultants who have tested practically every disinfectant upon the market, venture to correct what we consider serious misstatements in regard to a test which has been in world-wide use for a quarter of a century.

In the first place, in the previous paragraphs, no clear distinction is drawn between a disinfectant and an antiseptic. A disinfectant may be defined as a substance that kills micro-organisms, while an antiseptic is a substance that inhibits their growth. The Rideal-Walker test is used for standardizing disinfectants and not antiseptics, as stated in the paragraph quoted. Secondly, the concentration of the aqueous carbolic acid control is given as 1 in 150. This is entirely wrong, as the published technique definitely states that the controls must lie between 1 in 90 and 1 in 110. The result of any test where a control of 1 in 150 is used is worthless. Thirdly, the results do not show the time necessary to produce sterility. The fact that no organisms are transferred on the loop does not necessarily indicate that the 5 c.cm. of the particular dilution has reached sterility.

The most serious error, however, occurs in the final sentence, for the Rideal-Walker carbolic acid coefficient is definitely a function both of time (or rate of killing) and of the concentration of the disinfectant, and the whole value of the test consists in differentiating those disinfectants which kill rapidly or in high dilution from those which kill slowly or not at all.

We have made these remarks because we consider that the subject of disinfection and disinfectants is one of immense importance at a time when so much attention is being directed to hygiene and public health. It is desirable, therefore, in the interests of all, that serious misstatements of this nature should be corrected.—We are, etc.,

S. RIDEAL,
E. K. RIDEAL,
A. SCIVER.

London, S.W., July 4th.

CLOSURE OF ABDOMINAL INCISIONS.

SIR,—Mr. Heaney's article (June 25th, p. 1143) prompts me to draw attention to the bad knotting of their sutures which some even quite distinguished surgeons practise. Sufficient attention is not given to this matter. One man will even profess to be able to tie a proper knot with one hand, while another fails with two. What results is not a true knot at all, for there is no interlocking of the two elements. One is straight or almost so, and the other formed into a series of half-hitches around it. Pull the first one quite straight and you can easily slide all the turns right off it with a pair of dissecting forceps. Such so-called knotting is tempting Providence every time.

Let the first turn be pulled as tight as required and then held between the tips of a pair of forceps by an assistant. These should be pretty strong and neither sharp nor mouse-toothed. The two ends are then turned towards each other and across, then one under the other, and finally pulled up tight while the forceps are slipped out. A good knot is perfectly symmetrical. Some advise that the first twist be a double one, so as to be less liable to slip back before the second half is tightened upon it, but if this is done the cord (especially if silkworm gut) is liable to break in the knot.—I am, etc.,

Doncaster, June 29th. W. R. WILSON.

SODIUM SILICATE TREATMENT OF DOMESTIC WATER.

SIR,—In your issue of July 2nd (p. 39) I notice a letter from Mr. T. D. Harries regarding use of sodium silicate in domestic water supplies. In this communication Mr. Harries makes certain statements regarding the effects of sodium silicate. I therefore would like to have from him definite information on the following points:

1. Details of experimental evidence showing the harmful effects of sodium silicate.
2. Details of clinical evidence showing the harmful effects of sodium silicate.
3. The number of grains per gallon of silicate which he considers harmful.
4. The percentage of sodium silicate which is converted into colloidal silica.—I am, etc.,

July 2nd. M.O.H.

ROYAL NAVAL VOLUNTEER RESERVE MEDICAL SERVICE.

SIR,—The announcement in your last issue that Surgeon Captain A. R. Brailey, R.N.V.R., has been gazetted honorary surgeon to the King will be warmly welcomed by all officers of that branch of the service. Though its members were called up before even the outbreak of the great war, they were virtually ignored when the war honours were distributed, the highest decoration received by any member being the O.B.E. The members of the service have always felt sore at the failure to recognize what they did, and the granting to one of their number of the K.H.S., belated though it be, is an acknowledgement which will go a long way to remove what was regarded as something like a direct affront.—I am, etc.,

July 5th. R.N.V.R.

Obituary.

J. E. GORDON, O.B.E., M.R.C.S., L.R.C.P.,

Physician, Salisbury General Infirmary.

WE regret to have to record the premature death of Dr. James Edward Gordon of Salisbury, after an operation for cerebral tumour. He was 55 years of age, and was the eldest son of Dr. J. H. Gordon; he was educated at Weymouth College, Glasgow University, and St. Bartholomew's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P.Lond. in 1894. Shortly afterwards he settled in Salisbury, and had since been actively engaged in practice there, part of the time in association with his brother, Dr. William Gordon. He had held the appointment of honorary physician to Salisbury Infirmary for about twenty years, and the establishment of a maternity ward there was due to his initiative. He was medical officer of health to the Salisbury Rural District Council, medical officer to the Salisbury Municipal Charities, and to the Southern Railway Company; he was also medical superintendent of the Salisbury and District Isolation Hospital, which, under his guidance, has grown along the right lines from small beginnings. For some years he was lieutenant in charge of the cyclists' section of the 1st Wilts Volunteer Rifle Corps, and during the war was appointed consulting physician for infectious diseases in the Salisbury Plain area, Southern Command; while holding that post he had to cope with an outbreak of cerebro-spinal fever, and contributed an account of 250 cases of the disease to the *Royal Army Medical Corps Journal* in 1918; in recognition of this work he received the O.B.E. He was an active member of the British Medical Association, having been honorary secretary of the South Wiltshire District of the Southern Branch from 1899 to 1903, and of the Salisbury Division from its inception to 1913. He was chairman of the Salisbury Division from 1915 to 1920, its representative in 1914-15, and deputy representative in 1916-17. He was a member of the Wiltshire Branch Council and president of the Branch in 1923. When he retired from the office of representative his colleagues presented him with a gold watch and chain to mark their appreciation of his services. By the members of the profession he was always regarded as a wise counsellor, and his work for the Association was of a very high order.

We regret to announce that Dr. J. MURRAY YOUNG died at Perth on June 23rd. He had been in indifferent health, suffering from attacks of angina pectoris, for some little time, but his death was somewhat sudden. He graduated at Glasgow University M.B., C.M. with first-class honours in 1894. After holding the offices of house-surgeon and house-physician in Victoria Infirmary,

Glasgow, he settled in Hamilton, where he soon built up a large practice. He was a member of the British Medical Association, and when the Insurance Act came into force he was one of the most active members of the Local Medical and Panel Committees, both of the burgh of Hamilton and of the county of Lanark. After twenty-five years' strenuous work in Hamilton he was appointed by the Scottish Board of Health to be a district medical officer; his work was chiefly confined to the counties of Perth, Forfar, Fife, Kinross, and Clackmannan, and he filled the position with much diligence and every acceptance to all concerned. While in Hamilton he acted as medical referee to the Lanarkshire Miners' Union, and his experience in cases under the Workmen's Compensation Act was large and varied. In the summer of the year he removed to Perth Dr. Young was entertained to dinner by his former medical colleagues in Hamilton, when a presentation was made to him as a token of their regard. He was of a genial disposition and his friendship was much sought after, while his skill and ability made him popular with all classes. His chief recreation was fishing, and after his removal to Perth he had many opportunities of plying the gentle art in the rivers of Perthshire. Dr. Young was 58 years of age, and is survived by his wife, three sons, and one daughter.

The Services.

ROYAL NAVAL MEDICAL SERVICE.

Medical Director-General.

Surgeon Vice-Admiral Sir Joseph Chambers, K.C.B., C.M.G., retired from the active list on July 1st on vacating the office of Medical Director-General of the Royal Navy, which he has held since 1923. He is succeeded by Surgeon Rear-Admiral Arthur Gaskell, C.B., O.B.E.

The new Medical Director-General was born in 1871, and studied medicine at University College Hospital. He joined the Royal Navy in 1893, became staff surgeon (special promotion) in 1902, fleet surgeon in 1906, surgeon captain in 1920, and surgeon rear-admiral in 1923, on his appointment to the charge of R.N. Hospital, Plymouth. He obtained the diploma of F.R.C.S. in 1899.

Medico-Legal.

DE FREVILLE *v.* DILL: JUDGEMENT.

Mr. Justice McCardie, in the King's Bench Division of the High Court of Justice, on July 1st, after legal argument, delivered a reserved judgement in favour of the claimant, Mrs. May de Freville, wife of Mr. G. P. H. de Freville, for the sum of £50—the amount of damages which had been awarded by a jury—against Dr. A. V. Dill of Brinscombe, Stroud, for alleged negligence in certifying her to be a lunatic on June 9th, 1926. Mr. Justice McCardie intimated that his own view was that the effective cause of Mrs. de Freville's detention was the order of the magistrate, and not the certificate of Dr. Dill, and that he would have so held had he not been bound by authority.

His Lordship granted a stay of execution. Mr. Singleton, K.C., who appeared for Dr. Dill, saying that his client considered it important in the interests of the medical profession that the case should be taken further.

Mrs. de Freville's case was that when on June 9th, 1926, she returned to Oakridge Vicarage, the residence of her father-in-law, the Rev. Frederick de Freville, after a visit to her own father, her husband turned her out of the vicarage. She was very angry, and, as she wanted to see her little son, she entered the house by the servants' door. Her father-in-law kept her in the servants' hall while he telephoned to Dr. Dill, who came and certified her as suffering from acute mania, with the result that she was taken to Gloucester County Asylum. Next day she was examined, found to be of sound mind, and thereupon discharged.

Dr. Dill pleaded the protection of Section 330 of the Lunacy Act, 1890, having acted in good faith and with reasonable care.

Mr. J. W. J. Cremlyn and Mr. Comyn Maitland appeared for the plaintiff; Mr. Singleton, K.C., and Mr. W. H. Gattie for the defendant, Dr. Dill.

Previous reports of the case have appeared in the British Medical Journal (April 9th, p. 705; April 23rd, p. 781; June 4th, p. 1038).

The points raised by counsel in the legal argument are dealt with in the judgement.

Judgement of Mr. Justice McCardie.

Mr. Justice McCardie, in his judgement, said the jury were the tribunal on questions of fact, and their verdict must be taken to indicate their opinion that the plaintiff was not in such a state of mental or nervous disorder on June 9th, 1926, as to require her detention in a mental hospital. The defendant, Dr. Dill, was never employed by Mrs. de Freville, who never contracted with him, nor did she consent that he should act as her medical adviser. Dr. Dill, in examining her and forming his opinion, acted on behalf of her husband, or her father-in-law, the Rev. Frederick de Freville, and not on her behalf. The first contention on behalf of Dr. Dill was that he owed no duty of care to Mrs. de Freville. The point had often been discussed in well known litigation during the past seven years. Many exhaustive judgements had been given which touched directly or indirectly on the point. The question was one of great importance because it stood on the threshold of such actions as the present. It was, therefore, singular that it had not received express and clear decision from the final appellate tribunal. It would have been desirable long ago to pronounce the exact cause of action in such cases. He inferred from the many dicta in the opinions delivered in the House of Lords in Harnett *v.* Fisher (vide British Medical Journal of June 4th, p. 1036), and also from the decision itself, that such an action as the present was to be regarded as an action on the case for negligence in certification, causing damage through detention in a mental hospital without just cause. If the cause of action were of that nature and if there were no contract between Dr. Dill and Mrs. de Freville, did he owe her the duty of care with respect to certification and to the matters that preceded and surrounded it? It was plain that a surgeon who operated negligently on the body of a patient was liable in damages although there was no contract between the patient and himself. So, too, was a physician who administered medicine to the body of a patient. But Dr. Dill performed no operation nor did he administer any medicine to Mrs. de Freville. He only expressed in a certificate his honest view that she was a "person of unsound mind and a proper person to be taken charge of and detained under care and treatment." If he owed her the duty of care with respect to certification it was curious if he would not be liable for negligence in not certifying her if she had been of unsound mind and had inflicted injury on herself. He (his lordship) feared, however, that he was not free to express an independent opinion in view of the law already laid down in the early case of Hall *v.* Semple and the recent cases of Everitt *v.* Griffiths, Harnett *v.* Bond and Adam (British Medical Journal of May 23rd, 1925, p. 989), and Harnett *v.* Fisher (supra). He must, therefore, hold that Dr. Dill owed to Mrs. de Freville the duty of reasonable care.

Doctors and Certification.

During the past seven years, the Judge continued, a number of medical men who had acted in perfect good faith had been exposed to the most prolonged, harassing, and costly litigation on the allegation that they had acted without reasonable care in a matter which was the most difficult, delicate, and indefinite in the whole range of medical practice. It might well be that, as the result of past litigation, many doctors had refused, and would refuse, to take any part whatever in the work of certification, because of the perils and anxieties of litigation which might follow. Perhaps some further protective legislation was needed. The second contention of Dr. Dill was that his certificate was not the cause of Mrs. de Freville's detention. If he (his lordship) had been freed from authority, he would have thought that the effective cause of the detention was the order of the justice of the peace, and not the certificate of Dr. Dill. The decision under Section 16 of the Lunacy Act, 1890, lay with the justice of the peace, and not with the doctor. The justice of the peace could decide as he pleased whatever the certificate stated. He was possessed of judicial authority and discretion, and his adjudication was a decision *pro tempore* on the matter before him. The doctor's certificate, although an essential requirement, was a mere opinion which possessed of itself no operative force. The balance of opinion in Everitt *v.* Griffiths (supra) in the House of Lords and in the Court of Appeal favoured the view that Dr. Dill's certificate must be taken to be the cause of Mrs. de Freville's detention, and that balance was substantially increased by the recent decision of Mr. Justice Horridge in Harnett *v.* Fisher (supra), where he held that the negligent giving of the doctor's certificate was the direct cause of the magistrate's order and of the consequent detention of the plaintiff. There were also dicta on the point in the House of Lords, and, on the balance of authority, he held that Dr. Dill's certificate was the cause of Mrs. de Freville's detention in the mental hospital. He hoped that before long the House of Lords would give a clear and final decision both on the question of the duty of care, and also on the question whether the doctor's certificate was the "cause of the detention." Each was a matter of grave importance, both from a legal and a practical point of view. It was regrettable that so great a difference of opinion should exist, and that a trial judge should be beset with difficulty and doubt. He also hoped that, when the question of the certificate as a cause of detention was finally considered, the case of Harnett *v.* Bond and Adam (supra) would receive a full measure of attention. He doubted whether the importance of that case in respect of causation and the nature of *novus actus interveniens* had been fully realized.

The Magistrate's Responsibility.

The third contention of behalf of Dr. Dill was that the procedure set up by Section 16 of the Lunacy Act, 1890, had not been followed, and that Dr. Dill was entitled to assume (*a*) that his certificate was a mere and unessential preliminary; and (*b*) that the justice of the peace would, when the matter was brought before him, call in another and independent doctor for the purposes of certification. That point was never raised before the jury, and it was not open to the defence to raise it now. Even if it were, Dr. Dill had himself said in evidence that he

did not contemplate that another doctor would be called in by the magistrate, and that he expressly stated to the relieving officer that no second doctor was necessary; Dr. Dill plainly assumed that the magistrate, if he made the order, would act on his (Dr. Dill's) certificate.

Judgement was thereupon entered for Mrs. de Freville for the £50 damages awarded by the jury, together with costs.

ALLEGATION OF NEGLIGENCE AT A DENTAL HOSPITAL.

AN account was given in our last issue (p. 40) of an action heard in the King's Bench Division, before Mr. Justice McCardie and a special jury, in which the plaintiff, Mrs. Cooper, claimed damages against Mr. G. Miron, formerly house-surgeon at the National Dental Hospital, and Dr. Chiappa Sinclair, medical superintendent, for the loss of her daughter, whose death she alleged was due to their negligence in the extraction of a tooth. During the operation, which was performed under gas by a student, the crown of a molar was broken off, and, passing down the trachea, became embedded in the right bronchus. Neither the patient nor her friends were informed of the accident, and death from septic pneumonia followed. The jury found that negligence had been proved against Mr. Miron, and assessed damages at £150; they found no negligence by Dr. Sinclair. Leave had been granted the plaintiff to sue and Mr. Miron to defend as poor persons; but after the verdict the court was informed that Mr. Miron's means had since improved substantially, and his lordship deferred judgement pending any applications that might be made by counsel on either side.

On June 30th Mr. Pereira renewed his application that Dr. Sinclair's costs should be provided for, under the discretion given to his lordship by the Poor Persons Rules. He asked for an order that Mr. Miron should pay Dr. Sinclair's costs direct, or that the plaintiff should pay the full costs and be allowed to recover them from Mr. Miron.

Mr. Justice McCardie, in the course of his judgement, said it was a serious defect in the Poor Persons Rules that they imposed no obligation on any person admitted to sue or defend as a poor person to inform the court of any change in his financial position which would remove him from the class of persons for whom the rules were intended. In this case Mr. Miron had not misled the court by dishonestly suppressing any fact, and in the circumstances it would not be just to "depauperize" him. His lordship therefore made no special order as to costs beyond those appropriate to poor persons' cases. He entered judgement for Mrs. Cooper against Mr. Miron for £150 damages, and judgement for Dr. Sinclair against Mrs. Cooper.

DR. J. MAUGHAN (London, N.W.) writes: In the report headed "Allegation of negligence at a dental hospital" in the JOURNAL of July 2nd (p. 41) occur the words: "It appeared from the hospital records, however, that Miss Cooper's case had been dealt with before he left." The report should read as follows: "It was proved in evidence and confirmed in the daily record book in the gas room that Miss Cooper's case was the last one dealt with that morning." This fact, coupled with my instruction to the porter, renders the report intelligible and free from ambiguity.

Universities and Colleges.

UNIVERSITY OF OXFORD.

MR. CYRIL WILLIAM CARTER, M.A., B.M., B.Ch., formerly Hastings Scholar of the College, has been elected to an official Fellowship in Physiology at Queen's College.

The Board of the Faculty of Medicine has elected Miss Jean Orr Ewing, M.A., B.M., Lady Margaret Hall, to the Schorstein Research Fellowship in Medical Science for two years from October 1st next. Miss Orr-Ewing has been engaged in pathological research in the University for several years past, and intends to continue her investigations in the Sir William Dunn School of Pathology.

At a congregation held on July 1st the degree of Doctor of Medicine (D.M.) was conferred on K. J. Franklin.

UNIVERSITY OF DURHAM.

CONVOCATION Day at the University of Durham took place on June 28th, when the following degrees were conferred:

D.C.L. (*honoris causa*).—Sir James Berry.
M.D.—E. F. D. Dawson-Walker, S. Foskett, K. V. Milburn, L. Minski, R. J. Perring, T. E. A. Stowell, R. F. Tredre, J. H. Owen, C. C. Ungley, A. G. Weston, C. A. Wilson.
M.D. (*Practitioners*).—S. H. Griffiths, W. B. Peacock.
M.B. and B.S.—Olga H. Adams, R. E. Alderson, T. S. Blaiklock, H. C. Beck, Thomasina Belt, Evelyn H. Bolt, M. Davison, O. C. Dobson, Ida M. Dodds, W. Foskett, D. Camsu, Rebecca Harbit, W. B. Hicks, D. S. Jackson, G. N. Myers, C. Mason, L. D. Nelson, H. P. Nelson, J. A. O'Callaghan, E. Porteus, H. C. S. Pimblett, C. F. Richardson, F. H. Robson, A. T. G. Thomas, E. C. Vardy, T. Welsh.

In presenting Sir James Berry for his honorary degree Mr. G. Grey Turner described him as one whose name was honoured among surgeons the world over, and whose future greatness was foreshadowed by his academic career. Mr. Grey Turner ended his outline of Sir James Berry's distinguished record with the following words: "But it is not only for his scientific attainments, nor for his public worth, nor because he enjoys, and rightly, the wide esteem of his confreres, but because he has for so long set a high University standard in all the work he has undertaken, that I ask you to confer on him the degree of Doctor of Civil Law (honoris causa)."

The following appointments have been made at the College of Medicine, Newcastle-on-Tyne: Sir Thomas Oliver, Emeritus Professor of Medicine; Professor H. Brunton Angus, Emeritus Professor of Surgery; Thomas Beattie, M.D., F.R.C.P., Professor of Medicine; George Grey Turner, M.S., F.R.C.S., Professor of Surgery.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH.

AT an extraordinary meeting of the Royal College of Physicians of Edinburgh, held on June 14th, it was decided, in celebration of the Lister Centenary, to confer the Honorary Fellowship of the College upon the Earl of Balfour, K.G., O.M., F.R.S.; Sir John Rose Bradford, K.C.M.G., P.R.C.P.Lond., F.R.S.; Sir Hector Clare Cameron, C.B.E., M.D., LL.D.; the Right Hon. Neville Chamberlain, M.P.; Sir William Watson Cheyne, Bt., F.R.C.S.Eng., LL.D.; Sir David Ferrier, M.D., LL.D., F.R.S.; the Right Hon. Sir John Gilmour, D.S.O., M.P.; Dr. Thorvald Johannes Marius Madsen, Director of the Statens Seruminstitut, Copenhagen; Mr. Arthur Logan Turner, P.R.C.S.Ed., LL.D.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

ON July 5th the House of Lords read the Trade Disputes and Trade Unions Bill a second time, and the House of Commons completed the Committee Stage of the Finance Bill, except for consideration of new clauses, which was postponed till July 7th. On July 6th the Commons debated the suggested reform of the House of Lords, and on July 8th the India Office Vote was down for discussion. Estimates for other Government departments will be considered all next week in the Commons.

The Parliamentary Medical Committee met on June 30th at the House of Commons, with Dr. Fremantle in the chair, and heard an address from Dr. A. F. Cameron, the officer responsible for the small-pox department of the Metropolitan Asylums Board. Dr. Cameron analysed the small-pox cases in England generally and in London alone during the past twenty years. The figures showed a clear distinction between the severe and mild forms, and although it was undoubtedly one disease, the strains remained remarkably distinct. He pointed out that during the war years (1914-18) London only had three deaths from small-pox, and the whole of England and Wales only thirty-seven. He inferred that these low figures were due to the civil population being protected by a screen of vaccinated men in the fighting services, these being the mobile part of the population, and their protection ensured the safety of the rest. He considered the time to be approaching when, with the introduction of methods of inoculation and vaccination for other diseases, vaccination for small-pox should be put upon the same footing. The Medical Committee discussed the inferences regarding vaccination, registration, and other aspects of the problem which were suggested by Dr. Cameron's statement, and it informally decided that the matter would require its further attention when a report had been issued by the departmental committee now considering the question of vaccination. Dr. Fremantle, during the meeting of the Committee, referred to the issue of medical certificates to school children absent from school, and the question of payment for these, concerning which the Ministry of Education has been in correspondence.

The Minister of Health's Annual Statement.

On June 29th Mr. Neville Chamberlain presented Estimates of £12,943,593 for the Ministry of Health during 1927-28, including grants to local authorities for public health services and grants in aid of benefits and expenses of administration under the National Health Insurance Acts. This was in addition to £6,500,000 already voted.

Housing and Town Planning.

He said there was an automatic increase of £1,105,000 over the similar estimates for the previous year. For housing, £9,340,000 was provided. The number of houses built in this country in the twelve months ended March, 1927, was 217,000, against 61,000 annually in the five years before the war. The cost of the new houses was too high; in providing houses with smaller accommodation local authorities would meet the wishes of a greater number of the population. By announcing a reduction of the subsidy after October next the price of the non-parlour house had been brought below £400. Public appreciation of the value of town-planning was increasing. Some 2,700,000 acres were covered by town plans and regional plans. More provision was now made by local authorities for playing fields. A Regional Planning Committee had been set up for Greater London, and the Government proposed to appoint a Royal Commission to inquire into the best way of preserving the London squares.

Pensions and Additional Benefits.

Under the Contributory Pensions Act 714,000 persons had benefited by the pensions and allowances to widows and orphans. The approved societies had allocated for additional cash benefits £11,000,000 of the £24,000,000 disclosed by the second valuation under the national health insurance scheme. The £12,000,000 available for non-cash benefits had been increased by the State grant and by interest to £18,000,000, available for distribution in treatment benefits over five years. The societies had allocated to dental benefits eight times as much as they did under the first valuation, and to ophthalmic benefit twelve and a half times as much. As recommended by the Royal Commission, the Ministry of Health had set up a regional dental service. By provision of dental benefit attention would be given to the teeth of 13,000,000, and this would mean greatly improved health among the insured persons. The International Labour Conference, representing thirty-eight countries, had recently, by a large majority, adopted a draft convention, based upon the same principles as the British Health Insurance scheme, for organizing a compulsory sickness insurance applicable to countries adhering to the Convention. He hoped the majority of the thirty-eight countries would ratify the Convention.

The Public Health.

Last year the general death rate was 11.6 per 1,000, compared with an average of 12.2 per 1,000 in the preceding five years, and the infantile mortality rate was 70 per 1,000, compared with 76 in the preceding five years. The second improvement meant a corresponding improvement in the health and physique of the children who survived, and indicated an increase in the understanding of the duties of motherhood. To the maternity and child welfare centres this improvement must largely be ascribed. In other respects national health continued to be better, for there was a steady decline in the mortality from tuberculosis, typhoid fever, and scarlet fever. Deaths from cancer continued to increase. Though he could not announce any discovery giving hope that at an early date it would be possible to cope with cancer, knowledge increased all the time. The number of cases of small-pox in England and Wales, including London, was alarming. In 1922 there were 973 cases; in 1923, 2,500; in 1925, 5,300; in 1926, 10,100; and in 1927, to the end of May, 8,700. The type of small-pox was very mild, but they feared they might see a recurrence of the virulent form, which was one of the most deadly diseases. As a committee had been set up on vaccination he would not now say more on the subject. But the disease was assuming alarming proportions, and, though mild, was inflicting pain, suffering, and loss which was preventable, and ought to be prevented. Presently it would be necessary to take further steps to see if it could not be diminished. The League of Nations Health Committee was concerning itself in the epidemic intelligence centre at Singapore. Each of the Far Eastern ports was surrounded by areas where epidemic diseases were always present, and it was important to prevent the spread of yellow fever, plague, or small-pox by communicating information from one port officer to another. By the generosity of the Rockefeller Trustees this epidemic information centre had been established at Singapore, and the results were already invaluable. The League of Nations Health Committee was attempting to discover less expensive methods of malaria prevention which could be used over larger areas.

The School of Hygiene.

To the building of the School of Hygiene and Tropical Medicine in London, recommended by the committee under the presidency of the Earl of Athlone which reported in 1921, the Rockefeller Trustees had contributed 2,000,000 dollars, and the British Government would be responsible for its maintenance. It would provide for the study of public health in all its forms, and of tropical medicine in particular. To it could come those who proposed to be medical officers of health or medical practitioners in the tropics. They would see patients suffering from tropical diseases, and would be able to study the general principles which governed public health administration in and out of the tropics.

Proposed Post-Graduate Medical School in London.

Mr. Chamberlain then dealt with another proposal of the Athlone Committee, which was that there should be established in London a post-graduate medical school. On this matter Mr. Chamberlain spoke as follows:

"Unfortunately, for one reason or another, this recommendation has never yet been carried out, but now, I think, we are approaching a time when we shall be able to see it accomplished. I myself, some little time ago, set up a very strong committee of physicians and surgeons, of which I took the chairmanship myself, to consider what was the best way of carrying it into effect. The committee laid it down that it was not possible to combine in one school undergraduate and post-graduate teaching, and that is a conclusion which I think is supported by all expert opinion. Therefore, they had to consider whether they should contemplate the building of a new school, or whether it would be possible to adapt some existing institution. We decided against the building of a new school, because that not only meant the building of a school, but it also meant, in order to obtain the necessary clinical material, the building of a hospital with, perhaps, 400 beds; and that would have involved, not only a very large capital expenditure, but also an annual liability for the maintenance of the hospital. The committee, therefore, devoted themselves to an examination of various existing institutions, and they have come to the conclusion that they can find what they want in the West London Hospital at Hammersmith. That is a hospital which has had a long experience of post-graduate teaching. It has space into which it can extend, so that the necessary lecture rooms and laboratories and additional beds can be provided, and the scheme has been accepted in principle by the authorities of the West London Hospital. At the present time the buildings are being examined by technical experts with a view to seeing how they can be adapted and extended so as to make them available for this purpose.

"If this scheme can be brought to a conclusion, it is going to be a great thing for the medical services of this country and of the Empire, and, I think I might almost say, of the world. One of the difficulties to-day is that medical practitioners, who may have had a magnificent training before they enter into practice, go down into some remote part of the country, and find themselves unable in any way to keep themselves abreast of the most modern work. I should hope that in this school it will be possible to give short refresher courses to general insurance practitioners, so that they may come up to London and ascertain what are the latest methods of dealing with the problems with which they are faced."

Mr. MacLaren: "Would it be compulsory?"

Mr. Chamberlain: "I am not contemplating that at present; obviously financial difficulties would arise. I hope, however, that practitioners will avail themselves of it as it becomes further known. More than that, it will be a meeting-place where medical men will come from all parts of the Empire to exchange ideas, to exchange experience, to see what the latest experiments and the latest methods are, and how successful they have been. I find that in America also a project of this kind is welcomed most warmly. Many American doctors like from time to time to come over to Europe to see what is being done here, and to check what they are doing over there against European experience. They do not always understand foreign languages, and sometimes, indeed, we do not understand their language, but in a school of this kind they would find their British brethren would welcome very heartily the opportunities that they would get in such an establishment for exchanging ideas. The completion of a scheme of this kind would mean the expenditure of large sums of money, but, when it is realized what a great conception this is, and what a vast influence it may have in raising the general standard of medical practice, not only in this country, but in other countries, I feel confident that the funds which are necessary to bring it to completion will not be wanting."

Dr. Vernon Davies: "Will this hospital be built and financed by the State, or privately?"

Mr. Chamberlain: "I am not at present contemplating that it should be financed by the State."

Dr. Davies: "What connexion will the Ministry of Health have with it?"

Mr. Chamberlain: "It is possible that a contribution might be given to such a hospital from the educational point of view, and that would bring the Ministry of Health into very close contact with it. But I do not think my hon. friend need be anxious, if that be his fear, that it would in any way be divorced from the Ministry of Health, because, if such a course as I have suggested were adopted, for instance, for general practitioners engaged in the work of national health insurance, the Ministry of Health would certainly be brought into intimate connexion with it."

Discussion.

Mr. Crawfurd, in moving a reduction of the Estimates, said the House sympathized with the concluding passages of Mr. Chamberlain's speech, and wished him success. He said that in the present year there was no surplus for investment from the working of the National Health Insurance system, and attributed this to the Government's Economy Act of last year.

Mr. Rhys Davies regretted that Mr. Chamberlain had said nothing about mortality in confinement. About 3,000 women died every year in childbirth in this country. He asked what conditions prevailed in London which made this mortality less heavy there than in the provinces. He renewed his protest against the practice of automatically sending from the medical practitioner to the ophthalmic surgeon any person suffering from eye trouble. The Labour party welcomed the new projects for research into diseases, but that the Rockefeller Foundation had made donations was no credit to the Minister.

Dr. Fremantle said he did not propose to take up the question of the fees paid to ophthalmic surgeons. That would be arranged between the Ministry of Health and the representatives of the medical profession. The medical profession would back up any plea for assistance to research, but he reminded the House that the Medical Research Council, now doing magnificent work, arose out of the National Health Insurance Act. But when the larger and wiser object aimed at in that Act—the prevention of disease—was considered, it must be admitted that the whole insurance scheme had been an absolute failure. It did not tend to the prevention of disease, but marked improvement might be hoped for if the insurance scheme

were correlated with preventive agencies. The three main elements of ill health were poverty, ignorance, and carelessness. To do away with the grinding poverty, for which the individuals were not responsible, would go a long way towards improving the health of the community. The supply of houses was still inadequate, and the overcrowding which was prevalent in 1911 prevailed now. Housing surveys in Chelsea and Westminster had revealed some appalling conditions of overcrowding. He hoped that the question of the dilapidated house would be taken up by the Ministry of Health as the number of houses built became more adequate. He suggested that once every five years the Ministry of Health should call on the medical officers of health throughout the country for a survey of housing conditions, showing what was being done to meet the differing needs. The housing subsidy had gone too much to those who could pay, and should be given only to those who were really in need. The county councils should be pressed to do more under the Housing (Rural Workers) Act, and slum clearance would require vigorous action before long.

Mr. Briant wished to know whether the accumulated balances of the approved societies could be used to provide nursing and care for women in childbirth. The saving to the community would be enormous. He also thought that a way should be devised for sick men who were insured under the health insurance scheme to remain away from work for a month on a doctor's certificate to ensure complete recovery. Recent statements had been disconcerting about the possible connexion between encephalitis and vaccination, and he was not satisfied that all the facts were being made known. The Andrewes Committee made a report, which had been published in France, but not here. The committee on vaccination now sitting ought to make a preliminary report on cases of encephalitis which had occurred within two months after vaccination. The House of Commons had a right to see the report of the Ministry of Health inspector who had visited the hopfields. Some of the conditions there were disgusting. How many local councils had adopted the model rules drawn up in 1926 (on the accommodation of hop-pickers)? From South London 60,000 people migrated into Kent during the hop-picking.

Dr. Vernon Davies commended Mr. Chamberlain's speech. He deprecated the impression which might be formed by the public from that speech, that in a reasonable time a cure for cancer would be obtained. The only chance for a patient with cancer was early and complete operation, and not to wait for anything the Minister might have in mind. He did not understand how the proposed post-graduate hospital would function. How would it be kept up? Would it become a State hospital for post-graduate study, open to medical men of all nations? Would a fee be charged to them? Was it the beginning of a State control of medicine, or of a State medical service? Provided they were willing to pay for them, medical men had post-graduate facilities at most of the London and provincial hospitals. Answers given in the House of Commons had shown that they were surely advancing towards an epidemic of small-pox. The mildness of the type had made it more difficult for the local authorities to deal with the earlier cases and to prevent the spread of the disease. He blamed the Minister of Health for not seeing that the Vaccination Act was properly carried out. He had never met a conscientious objector who would not have his child vaccinated if he wanted to go to America, where the unvaccinated were not allowed to enter. In this country there was a huge number of unvaccinated people who were a danger to the community, and a big epidemic of small-pox with a high fatality rate was bound to come. It was the duty of the Minister of Health to put the law into operation, and to exert pressure on boards of guardians and local authorities. Had the Minister reprimanded the medical officers in north-eastern districts whose failure to control the disease had been condemned in the report of the Chief Medical Officer for 1926? The Ministry of Health paid half the salary of medical officers, and the Minister had a responsibility to see that they performed their duties properly. He renewed his suggestion that Government lymph should be sold to all practitioners who desired to use it. His experience in practice and as a Government vaccinator was that it was impossible to get from any firm lymph comparable to Government lymph. It was the duty of the Minister to prepare for the emergency of an epidemic by getting people vaccinated now, and not to put the question off by appointing a committee on vaccination. A very serious epidemic might arise before the committee reported. Vaccination was the only preventive for small-pox, and had the overwhelming support of the medical profession throughout the world.

Dr. Drummond Shiels said that while the medical profession as a whole still believed strongly in vaccination, there was some change of opinion on infant vaccination. Most medical men would welcome impartial inquiry to put the vaccination laws upon a proper modern footing. He drew attention to the subject of the rheumatic child, and recalled the recent investigations of the British Medical Association and of the Medical Research Council. It had been shown that in some areas 10 to 15 per cent. of children at 12 years of age were affected by rheumatism. It was tragic to see these children reach adolescence, carry on ordinary work, then break down and have to go to hospital. Unless they got a long rest, or had a very light occupation, this ended in early death. Environment seemed the main factor in this disease; its incidence was almost entirely on poor children. The very poorest did not suffer nearly as much as the class just above, very probably because in the humblest sections of the population there was a drastic system of survival of the fittest. Nothing very definite had been found about the features of environment which caused the disease, and there was no convincing evidence of heredity in connexion with it. He trusted the Minister would continue to encourage the Medical Research Council to go forward with research into rheumatism. The London County Council and the Metropolitan Asylums Board had given a lead to the whole country in providing special hospital accommodation for cases of acute rheumatism. He understood that 350 more beds were being provided at Carshalton. Were provincial local authorities urged to provide similar treatment? Had the Minister of Health considered giving the provincial hospitals a grant earmarked for providing extra accommodation of this special kind? The percentage of cases of rheumatism which developed heart disease could be greatly reduced. Hospitals should arrange with local medical practitioners for the care of rheumatic children after they left hospital. The children were often allowed to indulge in activities which did them great harm. The subject should be linked up with the orthopaedic treatment of children, in regard to which the Minister of Health had co-operated with local authorities. Dr. Shiels remarked that greater attention to the ante-natal condition of the mother, and especially to seeing that she had adequate nourishment, would certainly diminish maternal mortality. He asked the Minister whether he would urge local authorities to give the public information on cancer. Some public authorities in this country and in America had pointed out in simple language the early symptoms of cancer, and had emphasized the ease with which a cure could be secured if early treatment was sought. Local authorities who tried this publicity said that it did not spread a fear of cancer.

Sir Kingsley Wood, who replied for the Minister of Health, said that the proposed college for post-graduate medical education would not be a State institution. It was taking shape under a committee on which were the President of the Royal College of Surgeons, the President of the Royal College of Physicians, the representatives of the chief medical schools, and of the British Medical Association. He thanked members for their useful contributions to the debate.

The motion that the House approve the Estimates was withdrawn to permit further discussion if possible on a later day.

Poor Law Bill.

The Poor Law Bill, a consolidating measure which has come down from the House of Lords, came before the House of Commons in Committee late on June 23rd. Several Labour members objected to it being taken then, Mr. Scurr recalling that Mr. Chamberlain had said it was one of the greatest pieces of consolidating legislation ever put before the House of Commons. Sir Kingsley Wood invited Opposition members to indicate to the Minister of Health the grounds of their objection to the measure, and progress was then reported without any amendments having been considered.

Shop Acts, 1920 and 1921.

The Shop Acts Committee has adjourned, after concluding the evidence it intends to take, and will meet to begin consideration of its report in the middle of July. Evidence was given by Miss M. W. Miller and Mr. James Cunnison, on behalf of the Scottish Council for Women's Trades, which, they said, viewed with apprehension any possibility of the shop regulations being relaxed. They urged that, in considering hours, the Committee could not ignore other working conditions, such as vitiated air, lack of heating appliances, and the sanitary arrangements, defective in some cases and absent in others, which intensified the hardship of excessive hours of labour. Statistics obtained from the Women's Friendly Society of Scotland showed that for the first quarter of 1913 the sickness claims of shop assistants were 8.6 per cent. of the total sickness claims, whereas, in the first quarter of 1926 the percentage had dropped to 4.5 per cent. An inquiry recently carried out by students of the Economics Department and the School of Social Study, Glasgow University, showed that the hours during which shops remained open amounted in some cases to 13½ on week-days other than Saturdays, and 15 on Saturdays—a weekly total of 90 to 100 hours.

Dr. W. H. Davison, senior assistant medical officer of health for Birmingham, giving evidence on behalf of the Association of Municipal Corporations, said that, in interpreting the schedule to the Act of 1920, difficulties occurred in defining medical or surgical appliances, and also about the proviso that lights should be extinguished after the customer had been served. He thought that there should be a general Act prescribing a uniform closing

hour, and that all the existing exemptions might be removed, except those relating to meals, refreshments, motor accessories, and medicines.

Vaccination.—Lord Eustace Percy informed Mr. Groves that he was communicating with the Monmouthshire local educational authority regarding their action in distributing in the schools a leaflet advocating vaccination. Answering Mr. C. Wilson, Mr. Chamberlain said medical practitioners were not required to report the vaccinal condition of a person certified to be suffering from, or to have died from, encephalitis lethargica or other forms of encephalitis. Information on the period between vaccination and death was available only in cases brought to the notice of the Committee on Vaccination, in which vaccination had preceded within a few weeks the symptoms of acute disease of the central nervous system. Sir K. Wood, on July 5th, replying to an inquiry whether he would publish the full reports of the Committee which inquired into post-vaccinal encephalitis, said he assumed the question referred to the committee appointed by a previous Minister of Health in 1923. Its terms of reference were limited to whether any further experimental research could be initiated to throw light on the possibilities of vaccine lymph producing nervous diseases as a complication of vaccinia. The committee recommended that further research was desirable. The report was referred to, and was under the consideration of the Committee on Vaccination which was now sitting. Mr. Chamberlain did not propose to consider publishing the report of the committee appointed in 1923 until he had received a report from the present committee.

Town Planning.—Answering Sir J. Power and Mr. E. Brown, Mr. Chamberlain said he was not proposing to take steps to extend the Housing and Town Planning Acts, which now only apply to towns with populations of over 20,000. Town planning schemes were in preparation for all or part of 127 rural districts, either by the rural districts themselves or by neighbouring urban authorities. He was encouraging the promotion of joint town planning committees by neighbouring authorities. Provision for sanitation in rural areas where many houses were building was usually made under the general law, apart from town planning schemes.

The Indian Medical Service.—On July 1st Earl Winterton furnished a table showing the recruitment of, and casualties among, permanent officers of the Indian Medical Service during the years 1923-27. It was as follows:

Year.	Recruitment.		Casualties from all Causes.*	
	European.	Indian.	European.	Indian.
1923	17	—	41	4
1924	21	—	17	1
1925	11	10	31	1
1926	12	3	29	3
1927 to date ...	12	2	16	1

*That is, retirements on pension, deaths, removals, and resignations.

A note added that, according to the latest army list, there are now 489 British and 158 Indian officers holding permanent commissions in the Indian Medical Service. The ratio of approximately 1 Indian to 2 European officers has been accepted for both the civil and the military sides of the Indian Medical Service.

Colonial Research Service.—On July 4th Mr. Amery told Captain Crookshank that the committee of the Colonial Office Conference, over which Lord Lovat presided, while recommending the ultimate creation of a single colonial research service, recognized that the natural method of growth of such a service was the organization, in the first instance, of workers in the various fields of science into separate services. A committee had been appointed to formulate practical proposals, for submission to Colonial Governments, to give effect to the resolution of the Colonial Office Conference on the subject of a colonial agricultural research service. It was proposed that the recently appointed Colonial Medical Research Committee should, as one of its first tasks, consider the organization of a colonial medical research service. Steps were now being taken to set up another committee to inquire into the present condition of the colonial veterinary services; it would consider the possibility of establishing a veterinary research service common to all the Colonies and Protectorates.

Notes in Brief.

The iodine treatment of goitre in school children will be the subject of further reference in the next report of the chief medical officer to the Board of Education. Lord Eustace Percy considers that action on his own part would be premature.

The Board of Education has not made any alteration in the advice given by it to local education authorities regarding the certification of mentally defective children, nor is it aware that there has been variation in the standards adopted by the medical officers of those authorities.

The Minister of Health has no authority to instruct local authorities to compel, under the Public Health Act, the cleaning and spraying of stagnant pools on private land.

The Admiralty is prepared to consider suggestions from the men of the fleet for a more convenient supply of drinking water, particularly in engine rooms and boiler rooms.

Medical News.

THE British Pathologists' Association will hold its summer meeting in London on Friday, July 15th. At 10 a.m. on that day a series of papers will be read at the National Hospital, Queen Square, and luncheon will be taken at the House of the British Medical Association, Tavistock Square. In the afternoon demonstrations will be given in the pathological laboratory of the National Hospital and in the laboratories of the Hospital for Sick children, Great Ormond Street. A general meeting will be held at the House of the British Medical Association at 5 p.m., with Dr. C. Powell White in the chair; there will be a discussion on progress and future policy. At 6.15 Sir Thomas Horder will give an address on the need of standardization in clinical pathology, and a dinner will be held at the Hotel Russell at 7.45.

THE members of the Glasgow University Club, London, dined together at the Trocadero Restaurant on Friday, July 1st, under the chairmanship of Dr. C. O. Hawthorne, who proposed "Alma Mater" in a happy speech, full of reminiscences and good stories. He was very warmly and very justly applauded. The toast of "The Guests" was proposed by Mr. A. Watson Bain and acknowledged by Sir Dawson Williams. The health of the chairman was proposed by Dr. R. M. Wenley, an old Glasgow student, who has been for many years professor of philosophy in Ann Arbor University, Michigan. He also was reminiscent, and the chairman responded with some more stories. During the evening some appropriate songs were sung by members of the club, and those present joined very heartily in certain university choruses. Altogether the evening was a joyous and intimate occasion, testifying to the loyalty with which the university is regarded by its alumni.

THE Fellowship of Medicine announces that Dr. A. C. Roxburgh will give a special demonstration on July 12th, at 2.30 p.m., at the in-patient department of St. John's Hospital for Diseases of the Skin, 262, Uxbridge Road, W.14. On July 15th, at 5 p.m., Mr. Viner will give a lecture on epiphora at the Royal Westminster Ophthalmic Hospital, and on the same date Mr. Archer Ryland will give a demonstration at the Central London Throat, Nose and Ear Hospital at 10 a.m. (Those desirous of attending this latter demonstration are asked to notify the hospital—Museum 1539.) All these demonstrations are free to members of the medical profession. From July 11th to 16th the St. Mark's Hospital staff will undertake a special course occupying six afternoons and three mornings. Also beginning on July 11th is a two weeks' vacation course in medicine, surgery, and the specialties at the Prince of Wales's General Hospital, North-East London Post-Graduate College, Tottenham. The formal lectures at 4.30 p.m. are open to members of the Fellowship of Medicine. A four weeks' course in neurology at the West End Hospital started on July 4th, consisting of lecture demonstrations at 5 p.m. daily. From July 13th to 30th a course in infectious fevers will take place at the Park Hospital, Hither Green, S.E., on Wednesdays at 2.30 p.m. and on Saturdays at 11 a.m. There will be two special courses in August: in diseases of infants at the Infants Hospital, August 8th to 20th, and in medicine, surgery, and the specialties at the Queen Mary's Hospital, August 29th to September 10th. Copies of all syllabuses are obtainable from the Fellowship of Medicine, 1, Wimpole Street, W. A general course of work is also provided at the associated hospitals, for which a comprehensive ticket is issued and a separate programme published. Copies of the Fellowship *Journal* will be sent on application.

A MEETING of the Society of Superintendents of Tuberculosis Institutions will be held on Monday next, July 11th, in the House of the British Medical Association, Tavistock Square, at 3 p.m. It will be addressed by two American authorities, Dr. Eugene L. Opie, of the Henry Phipps Institute, Philadelphia, who will speak on latent tuberculosis and its relation to manifest disease, and Dr. H. Longstreet Taylor, President of the National Association for the Prevention of Tuberculosis in America, on sanatorium treatment in cold climates.

DR. ROBERT DE LA POER BERESFORD, J.P., has resigned his appointment as medical officer of health for the Borough of Oswestry after 59 years' service. Dr. Beresford, who is now in his 86th year, has twice held office as mayor of Oswestry, and the town council proposes to confer upon him the honorary freedom of the borough.

A CLOCK TOWER erected in Stanley Park, Blackpool, as a memorial to the late Dr. W. H. Cocker, was unveiled on June 29th. The memorial tablet states that it was erected in 1926, the jubilee of the incorporation of the borough of Blackpool, in honour of Dr. William Cocker, J.P., the first mayor and honorary freeman of the borough.

AN extension of the Louth and District Hospital was opened by Princess Helena Victoria on June 14th. It provides a maternity ward with eight beds and accompanying cots, two private maternity wards, a lying-in room, ward kitchen, baby room, and offices. It also contains a children's ward, to be known as Princess Helena Victoria ward, with eight cots, together with a verandah and kitchen, and an *x*-ray department. The total cost of the extension and its equipment will be about £9,000.

THE centenary of the death of Alessandro Volta, the inventor of the voltaic pile, will be celebrated on September 8th at his birthplace, Como, during the meeting there of the International Congress of Physicists.

FOR those who find it necessary to refer to Government statistics the *Guide to Current Official Statistics of the United Kingdom* is a most useful volume. The fifth of these publications, covering the year 1926 and some of the early part of 1927, has just been issued by the Permanent Consultative Committee on Official Statistics. After an explanatory introduction, showing the object and the method of using the guide, there is a subject index. This is extraordinarily full, so that the student of beer, cider, divorce, hotels, inebriety, or the prerogative of mercy, can turn up his subject and find under it a reference, on any statistical point, to a later part of the volume, which gives a list of publications. Here he will find the name of the particular document in which the statistics occur, with the date and frequency of its publication, and its price. Between the subject index and the list of publications there is sandwiched a key which enables the inquirer to refer back to the subject index if he wishes to know the statistical contents of any of the publications in the list. For those interested in medical, social, and economic problems, or engaged in commercial or industrial enterprises the guide is invaluable. It is published by H.M. Stationery Office, price 1s., and can be obtained through any bookseller.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

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QUERIES AND ANSWERS.

IMPERMEABLE FLOORS FOR HOSPITAL WARDS.

DR. FREDERICK WALKER (Holbeach, Lincolnshire) asks for information with regard to impermeable floors for hospital wards:

*** Our correspondent probably has in mind a rubber floor. Among hospitals whose wards, or portions of them, have recently been rubber-floored are St. Bartholomew's, London; the East Sussex Hospital, Hastings; the Royal National Sanatorium, Bournemouth; and the Victoria Hospital, Barnet. The firm which has done the work in all these and many other institutions is the North British Rubber Company, 204, Tottenham Court Road, W., which allows trade terms to hospitals, though not to private individuals. If a concrete floor is in view, a flooring known as "steel-crete," the proprietors of which are Messrs. Jones and Co., Avenue Chambers, Southampton Row, and which is claimed to be wearproof, dustproof, waterproof, and fireproof, seems to be widely used in various places—factories, dairies, and so forth—but we are not aware that it has been used for hospital wards.

INORGANIC SULPHATES IN HUMAN BLOOD.

DR. R. LINDSAY MACKAY (Wolverhampton) is seeking references to a reliable method for estimating the inorganic sulphates in human blood. One reference he has found is to an article by W. Denis in the *Journal of Biological Chemistry*, 1921, vol. xlix, p. 311. This method is not, Dr. Mackay states, very attractive.

*** The only method yet described with any authority for the determination of inorganic sulphates in human blood is that of Denis, referred to by our correspondent. It is certainly unattractive, since it suffers from the empiricism of all nephelometric methods. Should our correspondent desire to detect only gross changes in inorganic sulphates, such as are said to occur when there is extreme nitrogen retention (Denis and Hobson, *Journ. Biol. Chem.*, 1923, lv, 183), he might find that determinations of total sulphates gave a general indication of inorganic sulphate changes. The method for estimating total SO_4 (Denis and Leche, *Journ. Biol. Chem.*, 1925, lxv, 561 and 565) is a relatively straightforward chemical manipulation.

TRAUMA AS A CAUSE OF AURICULAR FIBRILLATION.

DR. I. HARRIS (Liverpool) has sent another note in reply to Professor Hay's letter of June 25th (p. 1162). Dr. Harris thinks it obvious from the context of his first letter that the statement, "There has not been a shred of dependable evidence produced," referred to the clinical evidence, and this is the point to which he attaches importance.

*** We cannot continue this correspondence.

INCOME TAX.

Deduction for Superannuation.

"M. S." holds a public appointment and has to suffer a 5 per cent. charge in respect of superannuation, which extends not only to the emoluments which are assessable to income tax, but also to those which, being received in kind—that is, house and fuel—are not so assessable. Can he deduct the whole amount for the purpose of the assessment?

*** The assessment, being under Schedule E, "M. S." can deduct expenses incurred wholly, necessarily, and exclusively in the performance of the duties of his office. We understand that compulsory superannuation deductions are regarded as coming within this rule. It is not open to "M. S." to pay a part only of the total superannuation; it is a condition of his appointment, and, therefore, of his receiving the assessable emoluments that he should pay the whole. Consequently, on technical rather than on equitable grounds, we consider he can deduct the whole in the assessment of the liable portion of the emoluments.

LETTERS, NOTES, ETC.

LOUD MOTOR HORNS.

THE Secretary of the Automobile Association has issued a circular letter stating that he has received a number of complaints about the excessive use of loud motor horns, especially at night-time. He points out that while the motorist is required by law to give audible warning of his approach, it is quite unnecessary to use a loud horn when a less powerful one would be sufficient. He submits that it would be more than a courtesy—presumably he means a loving kindness—if motorists would make a practice of fitting two horns to their cars, and using only the less strident in residential areas. We sympathize fully with the complainants, and with Mr. Stenson Cooke's concern not only for patients in hospitals and nursing homes, but also for the healthy citizen who is seeking rest for his limbs and brain; but as long as the law and a nervous public urge the motorist to make his presence known by noise, and as long as buttons are provided in a convenient spot on the car for making a noise, we fear that anxious and thoughtless drivers will continue to avail themselves of the opportunity. The British public might, at least, be thankful that the motorist in this country does not, like his brother abroad, keep his finger glued to the button.

"ANTISEPTIC."

DR. H. BROOM (Glengarnock) has found the word "antiseptic" in *Travels in England and Scotland*, translated from the French by Faujas Saint-Fond; printed in 1799 (vol. i, p. 113, line 14). He had previously supposed it to be a modern term. The word, however, is earlier than the date given; the first reference in the *New English Dictionary* is to the *Gentleman's Magazine* of 1751; the second to Priestley's *Observations on Different Kinds of Air* (1774); he speaks of the "remarkable antiseptic power of nitrous air." Both writers used it in the sense of "counteracting putrefaction." St. Fond, speaking of the smoke of London, says that "the products of combustion are acid and consequently antiseptic," so that probably he was following Priestley.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 39, 40, 41, 44 and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *19*.